

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE EASTERN DISTRICT OF TEXAS
3 MARSHALL DIVISION

4 PACKET INTELLIGENCE LLC)(CIVIL DOCKET NO.
5)(
6)(2:16-CV-230-JRG
7)(
8 VS.)(MARSHALL, TEXAS
9)(
10 NETSCOUT SYSTEMS, INC.)(
11 TEKTRONIX COMMUNICATIONS,)(OCTOBER 11, 2017
12 AND TEKTRONIX TEXAS LLC)(12:40 P.M.

13 TRANSCRIPT OF JURY TRIAL

14 BEFORE THE HONORABLE JUDGE RODNEY GILSTRAP

15 UNITED STATES DISTRICT JUDGE

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P R O C E E D I N G S

(Jury out.)

COURT SECURITY OFFICER: All rise.

THE COURT: Be seated, please.

All right. Defendant, are you prepared to call your next witness?

MS. SMITH: We're -- before the jury gets in, Your Honor?

THE COURT: No.

MS. SMITH: Okay.

THE COURT: I want to know what's going on before I bring the jury in.

MS. SMITH: Absolutely, Your Honor. NetScout's next witness will be Ms. -- Ms. Heather Broughton.

THE COURT: All right. Is --

MS. SMITH: For the Court's information, Ms. Broughton has not been present and has not yet been sworn.

THE COURT: All right. All right. And is there a binder for this witness? I have other binders up here.

MS. SMITH: No, Your Honor.

THE COURT: There's not, okay.

All right. Let's bring in the jury,

1 please, Mr. Elliott.

2 COURT SECURITY OFFICER: All rise.

3 (Jury in.)

4 THE COURT: Welcome back, ladies and
5 gentlemen of the jury. Please have a seat.

6 All right. Defendants, call your next
7 witness.

8 MS. SMITH: Your Honor, NetScout calls
9 Ms. Heather Broughton.

10 THE COURT: All right. Ms. Broughton, if
11 you'll come forward. I don't believe you were sworn --
12 been sworn, rather. If you'll come forward, our
13 courtroom deputy will administer the oath to you.
14 And if you'll come around here to be sworn, then you may
15 have a seat on the witness stand.

16 (Witness sworn.)

17 THE COURT: All right. Now, if you'll
18 come around and have a seat on the witness stand.

19 Mr. Elliott, let's just dispense with
20 that additional microphone. I'm not convinced they help
21 very much anyway.

22 All right. Ms. Smith, you may proceed
23 with your direct examination.

24 MS. SMITH: Thank you, Your Honor.

25 HEATHER BROUGHTON, DEFENDANTS' WITNESS, SWORN

DIRECT EXAMINATION

BY MS. SMITH:

Q. Good afternoon, Ms. Broughton.

A. Good afternoon.

Q. If you would introduce yourself to the jurors?

A. Sure. My name is Heather Broughton.

Q. Ms. Broughton, where do you work?

A. I work at NetScout.

Q. And how long have you been at NetScout?

A. I've been at NetScout for 17 years.

Q. And I want to visit with you about that work, but prior to doing that, if you would share with the jury a little bit about yourself. Where did you grow up?

A. Sure. I grew up in Alvin, Texas, that's about halfway between Houston and Galveston. And I lived there until I went to school at Texas A&M. I graduated from Texas A&M in 1996 with a degree in MIS or management information systems.

Q. And what was your first job after graduation from Texas A&M?

A. My first job was to TR3 troubleshooting at MCI, so a long distance carrier.

Q. If you could, tell the jury what troubleshooting involves or what it involved in your

1 work at MCI?

2 A. Sure. So troubleshooting for the job that I
3 had was really when you guys are trying to call your mom
4 or your grandma and the call doesn't go through, and
5 you're calling long distance. So you would call your
6 local telephone carrier, like Southwestern Bell or
7 CenturyLink, and you're going to call them and say, I
8 can't get through to my mom. And they're going to write
9 a trouble ticket for you. And they'll tell you, we're
10 going to go fix it. And that trouble ticket is
11 something that would come to me. And then it comes to
12 me, and then what I would do is I would typically try to
13 figure out why the call was failing for you.

14 Q. Now, you said that -- that you now work for
15 NetScout, correct?

16 A. Uh-huh.

17 Q. How do you transition from your work at MCI to
18 your work for NetScout?

19 A. That's a good question. So what I did I was
20 working in troubleshooting, and as part of my job, I had
21 heard about and got to call some people in Cary, North
22 Carolina to help me do some of my troubleshooting and
23 help me troubleshoot these voice calls, but I couldn't
24 ever use this system, but I heard it was called the Inet
25 box.

1 And one of the things that the -- one of the
2 guys that I always talk to, he joined Inet as a company,
3 and he called me later and said, you know that Inet box
4 that you really like and you would use it for
5 troubleshooting.

6 And I said, yeah.

7 And he goes, why don't you come join the
8 company, so I did.

9 Q. So you basically loved the product and --

10 A. I did.

11 Q. -- followed the product because of it?

12 A. Yeah, I was a customer, and I wanted to join
13 the company.

14 THE COURT: Ladies, let me make sure that
15 you both understand the importance of not talking over
16 each other. You need to make sure you're talking one at
17 a time.

18 MS. SMITH: Yes, Your Honor.

19 THE COURT: Let's continue.

20 THE WITNESS: Yes, Your Honor.

21 Q. (By Ms. Smith) Ms. Broughton, what position
22 did you initially hire on at Inet which ultimately
23 became NetScout?

24 A. I was hired as a product manager.

25 Q. What did you do as a product manager?

1 A. As a product manager, we take requirements or
2 requests from our customers, and we build new products
3 or applications based on those requests.

4 Q. How many years did you work as a product
5 manager?

6 A. I worked as a product manager for 12 years.

7 Q. And then what happened at the end of that 12
8 years?

9 A. I moved to the marketing department.

10 Q. And is that where you work today?

11 A. Yes, today I'm the director of marketing.

12 Q. Now, through your work as director of
13 marketing, you have -- you have knowledge of the
14 products that NetScout offers; is that correct?

15 A. Yes, absolutely.

16 Q. What I'd like you to do is share with the
17 jurors who the customers are that you market to and that
18 NetScout services today.

19 A. The customers are telecom carriers globally.
20 So that would be a telecom carrier in Italy, a
21 telecom -- telecom carrier in Australia, and, of course,
22 the U.S. ones that you guys should be familiar with like
23 AT&T, Verizon, CenturyLink, Cricket, all of these type
24 of carriers.

25 Q. Now, Ms. Broughton, for your convenience, I'm

1 going to direct you -- direct your attention to the
2 screen in front of you, and I'd ask that Mr. Goodin pull
3 up Defendants' Exhibit 383, which I believe is called
4 Tektronix Communications Corporate Overview.

5 Have you seen this document, Ms. Broughton?

6 A. Yes, I have.

7 Q. Something you're familiar with?

8 A. Yes, I am.

9 Q. All right. I'll direct your attention, with
10 Mr. Goodin's help, directly to Page 35203 in this
11 document.

12 MS. SMITH: Thank you, Mr. Goodin.

13 Q. (By Ms. Smith) Ms. Broughton, what -- what
14 information is shown on this page?

15 A. This is the customers of Tektronix
16 Communications. It shows really the blanket of
17 customers that I was just talking about, BT, AT&T,
18 T-Mobile, all of the customers that we have.

19 Q. And are they all phone companies?

20 A. Yes.

21 Q. Okay. Does NetScout Texas have any customers
22 that are not telephone companies?

23 A. No, they do not.

24 Q. Do you know of any instance in -- in not only
25 the last few years but in your entire work for NetScout

1 Texas where it sold to anybody other than a telephone
2 company?

3 A. No, I do not.

4 Q. Okay. Now, Ms. Broughton, you're familiar
5 with the GeoProbe family of products?

6 A. Yes, I am.

7 Q. When did you first learn about the GeoProbe
8 products?

9 A. I first learned about them when I joined the
10 company in April 2000.

11 Q. Okay. And when were those -- when were
12 those -- you joined in 2000. When were those products
13 developed?

14 A. The products were developed before I joined
15 the company. I just had never really tied in that
16 GeoProbe was an Inet box and things that I was using
17 prior. I really didn't have that detailed customer
18 knowledge until after I joined the company.

19 Q. Now, again -- again, looking at all the
20 telephone companies on the screen, what does a probe do
21 in these customer telephone networks?

22 A. So a probe is a device that you put in your
23 network. Let's say -- take the U.S., for example,
24 you're going to put it all around the country. You may
25 put one in Dallas. You may put one in East Texas. And

1 what you're going to do is collect information about the
2 phone calls that everybody is making. And you're doing
3 that not for -- you're doing that in order to gain
4 quality, right? So you want to understand how good the
5 quality.

6 So you guys have heard the commercials where
7 they say our network is 99 percent quality, we help
8 ensure those kind of things for telecom carriers.

9 Q. And I see kind of a mix of -- of telecom
10 carriers here. Are the probes used for both wired and
11 wireless telephone services?

12 A. Yes, they are.

13 Q. And NetScout Texas sells the GeoProbe --
14 GeoProbe products today; is that correct?

15 A. Yes, it is.

16 Q. And can you explain to the jury what that
17 family of products is?

18 A. Yes. So there's a GeoProbe 14U, there's a
19 GeoProbe G10, and a GeoProbe GeoBlade.

20 Q. And how did the telephone companies use these
21 products?

22 A. So the products -- the main difference for the
23 products or -- in order that you would get more -- you
24 need a bigger probe in order to get more information
25 through, right, so someone like Verizon may buy a

1 GeoBlade, but someone smaller -- in a smaller area like
2 Japan may not need a big GeoBlade, so they use a G10, or
3 may use -- in a rural area versus a city, they may use
4 different ones. You use the big one in the city and the
5 smaller one -- the G10 is smaller -- in the more rural
6 area.

7 Q. Now, Ms. Broughton, are you familiar with a
8 feature known as the web page download KPI?

9 A. Yes, I am.

10 Q. What's that?

11 A. It's a KPI that was thought about in
12 conjunction with a company called Oi, which is on the
13 screen. It's one of our customers in France.

14 Q. Now, you mentioned specifically a French
15 customer. Was the web page download KPI included in any
16 of the base products that Tektronix sells or has sold?

17 A. No.

18 Q. Okay. That French company, did they
19 ultimately either license or -- or even buy the feature?

20 A. No, they didn't.

21 Q. Has any customer ever bought or licensed that
22 KPI feature?

23 A. No.

24 Q. So your revenue on that feature would be zero;
25 is that correct?

1 A. Yes, that's correct.

2 Q. I appreciate your time, Ms. Broughton.

3 MS. SMITH: Your Honor, I'll pass the
4 witness.

5 THE COURT: Cross-examination. Proceed
6 when you're ready, Ms. Abdullah.

7 MS. ABDULLAH: Thank you. Your Honor,
8 may I approach to give out a few binders?

9 THE COURT: Yes, you have leave to pass
10 out your binders.

11 CROSS-EXAMINATION

12 BY MS. ABDULLAH:

13 Q. Good afternoon, Ms. Broughton.

14 A. Good afternoon.

15 Q. You said that AT&T is one of Tektronix's
16 biggest customers, right?

17 A. Yes, it is.

18 Q. And so is Verizon?

19 A. Yes.

20 Q. And isn't it true that Comcast is always -- is
21 also a big customer of Tektronix?

22 A. It depends on your definition of big, but it
23 is a customer.

24 Q. And -- and Comcast isn't just a telephone
25 company of any sort, right?

1 A. Comcast that we sell to specifically is on the
2 Comcast cable provider sector of the business, which is
3 a telecom.

4 Q. But part of the services they might provide
5 are TV, cable, wireless Internet, things like that?

6 A. Comcast may, correct.

7 Q. Yes?

8 A. Uh-huh.

9 Q. And AT&T and Verizon, their customers might be
10 mobile phone users, right?

11 A. Correct.

12 Q. And so, for example, my colleague, Mr. Davis,
13 might have a smartphone that's an AT&T smartphone,
14 right?

15 A. Yeah.

16 Q. And Mr. Davis might use that to place some
17 calls through the AT&T network to his family, maybe,
18 right?

19 A. Yes.

20 Q. He might decide to FaceTime or make a video
21 call as well, right?

22 A. Yes.

23 Q. He might watch a movie on Netflix on that
24 smartphone, right?

25 A. Uh-huh, yes.

1 Q. And he might go to the Facebook app and, you
2 know, just see what's going on in the world, right?

3 A. Yes.

4 Q. And he can do all those things through the
5 AT&T network, right?

6 A. Yes.

7 Q. Now, what are the goals of the products that
8 Tektronix sells, including the G10 and the GeoProbe?

9 One of those goals is to help its customers
10 like AT&T deliver subscribers with the highest quality
11 of service; is that fair?

12 A. That's fair.

13 MS. ABDULLAH: If we could pull up
14 DX-383, please. And if we could go to NS035216.

15 Q. (By Ms. Abdullah) And this is a document you
16 were just looking at with your Counsel, right?

17 A. Correct.

18 Q. Now, this page talks about conversational
19 video, right?

20 A. Yes, it does.

21 Q. And the first bullet point notes that 66
22 percent of mobile traffic will be video by 2014, right?

23 A. Yes, it does.

24 Q. And that's the statement that Tektronix made
25 in one of its documents?

1 A. That's correct.

2 Q. And one of the things that it says in
3 marketing documents like this is -- is encompassed by
4 that last bullet there which says ensure your video
5 monetization by delivering subscribers with the highest
6 quality of service, right?

7 A. Yes.

8 MS. ABDULLAH: And if we can look on Page
9 NetScout 035223 of the same document.

10 Q. (By Ms. Abdullah) This shows another of
11 Tektronix's offerings to its customers, right?

12 A. Yes, it does.

13 Q. And specifically it shows professional
14 services?

15 A. Yes, it does.

16 Q. And if we look at that column in the middle,
17 it says application services, right?

18 A. Yes, it does.

19 Q. And that describes the application services
20 that you might provide to, for example, AT&T?

21 A. It describes our personal applications and the
22 applications that we built, how we would help customers
23 use our own applications.

24 Q. And part of that is that last item there that
25 says multi-protocol correlation, right?

1 A. Yes.

2 Q. And it specifically lists the GeoProbe and G10
3 right under it?

4 A. It does.

5 Q. And you agree that -- another part of what
6 Tektronix does and tells its customers that it does is
7 provide monitoring solutions for network performance,
8 right?

9 A. Yes.

10 MS. ABDULLAH: So if we could look at the
11 page that is 035229 in this document.

12 Q. (By Ms. Abdullah) This is a summary of -- of
13 this document that we've been looking at, right?

14 A. Yes, it is.

15 Q. And the first bullet and sub-bullets, they
16 talk about certain solutions for CSP's businesses -- or,
17 I'm sorry, CSP's business, right?

18 A. Yes.

19 Q. And a CSP, what is that?

20 A. It's a carrier service provider.

21 Q. And some of the items listed under there
22 include subscriber behavior, right?

23 A. Yes, correct.

24 Q. And the next one says services and apps
25 consumed, right?

1 A. Yes, correct.

2 Q. And then the last two are technologies used
3 and network performance, right?

4 A. Correct.

5 Q. Now, you'd also agree that being able to
6 monitor streaming video is important to Tektronix's
7 customers, right?

8 A. Yes, I would agree that.

9 MS. ABDULLAH: If we could look at
10 PTX-160.

11 Q. (By Ms. Abdullah) This is the TekComms
12 streaming video assurance document. Do you see that?

13 A. Yes, I do.

14 Q. It's dated October 2014, right?

15 A. Yes, it is.

16 Q. And this -- this is a document that you would
17 give to your customers, right?

18 A. Can I -- look through it?

19 Q. Sure.

20 A. Typically, we wouldn't give these documents to
21 our customers, but we may present them.

22 Q. If you could turn to the second page, this is
23 entitled Streaming Video Dominates the Network. Do you
24 see that?

25 A. Yes, I do.

1 Q. And it says on the right under the -- the item
2 that says by 2018, it says: 79 percent of all global
3 consumer Internet traffic will be video.

4 Do you see that?

5 A. Yes, I see that.

6 Q. You can turn to Page 30 now, which is the page
7 ending in 05934.

8 Do you see that page?

9 A. Yes, I do.

10 Q. This is TekComms's streaming video assurance,
11 right?

12 A. It is.

13 Q. And that means that's what you're telling your
14 customers that Tektronix can do for them, right?

15 A. What we're telling them is that we can do
16 streaming video, and it's to be clear that that's on our
17 TP.

18 Q. Okay.

19 A. That's a very specific type of streaming
20 video.

21 Q. So you're telling them that -- you're giving
22 them an assurance about what Tektronix can do for
23 streaming video?

24 A. That's correct.

25 Q. And it says, the third bullet point says:

1 Full streaming video session model, correlating control
2 plane and video media.

3 That's what you're telling your customers,
4 right?

5 A. In this document, that's what it says.

6 Q. And that is a document you said you would
7 present to --

8 A. Yeah.

9 Q. -- customers?

10 A. We would present it, yes.

11 THE COURT: Let me ask again to make sure
12 the question is finished before the answer is given, and
13 make sure the answer is finished before the next
14 question is asked. The transcript cannot be accurate if
15 two people are talking at once, okay?

16 Let's proceed.

17 Q. (By Ms. Abdullah) And if you look at the very
18 bottom, it also has an item that says: Full end-to-end
19 video quality coverage.

20 Right?

21 A. Yes, it does.

22 Q. And, again, that's another thing that you're
23 telling your customers that Tektronix can do, right?

24 A. Yes, we are.

25 Q. I'd like to now turn to DX-219. And this is a

1 data sheet, right?

2 A. Yes, it is.

3 Q. It's a data sheet for the GeoProbe G10?

4 A. That's correct.

5 Q. And because this says NetScout on top, it's
6 fair to assume that this is after the acquisition,
7 right?

8 A. Absolutely.

9 MS. ABDULLAH: I'd like to focus in on
10 the middle paragraph that says designed specifically.

11 Q. (By Ms. Abdullah) And here, let me ask you
12 this: This -- this is also a document that would be
13 available to customers, right?

14 A. Yes, correct.

15 Q. It's a marketing document?

16 A. Yes, it is.

17 Q. Is that fair?

18 And it says that: The G10 is designed
19 specifically to address high bandwidth interfaces and
20 data center applications, the NEBS-compliant GeoProbe
21 G10 platform features a distributed architecture
22 optimized to handle high volume --

23 THE COURT: Slow down Ms. Abdullah,
24 please.

25 MS. ABDULLAH: I'm sorry.

1 Q. (By Ms. Abdullah) -- high volume IP traffic
2 with native support for both IPv4 and IPv6.

3 That's what you're telling your customers
4 about G10, right?

5 A. That's correct.

6 Q. Okay.

7 MS. ABDULLAH: If we could also turn to
8 DX-220.

9 Q. (By Ms. Abdullah) And this is a document -- a
10 similar document to what we were looking at, but this is
11 for the GeoBlade product, right?

12 A. That's correct.

13 MS. ABDULLAH: And if we could, again,
14 focus on that middle paragraph.

15 Q. (By Ms. Abdullah) And it says here that:
16 GeoBlade can help you address massive traffic growth
17 while minimizing the total cost of ownership and
18 physical footprint.

19 Do you see that?

20 A. Yes, I do.

21 Q. And that, again, is something that you're
22 telling your customers, right?

23 A. Yes.

24 MS. ABDULLAH: I pass the witness.

25 THE COURT: Is there redirect?

1 MS. SMITH: No, Your Honor.

2 THE COURT: Ms. Broughton, you may step
3 down.

4 Defendant, call your next witness.

5 MS. SMITH: Your Honor, NetScout calls
6 Mr. Anil Singhal.

7 THE COURT: All right. He's subject to
8 the Rule, Ms. Smith?

9 MS. SMITH: Yes, Your Honor.

10 THE COURT: Okay. If you'll come
11 forward, sir, our courtroom deputy will swear you in.

12 If you'll -- if you'll come forward.

13 (Witness sworn.)

14 THE COURT: Please come around, sir, and
15 have a seat here at the witness stand.

16 THE WITNESS: Thank you.

17 THE COURT: I see we have binders to pass
18 out. Let's get that done.

19 MS. SMITH: May we approach, Your Honor?

20 THE COURT: Yes.

21 And if you will, sir, please pull that
22 microphone a little closer to you so we can hear you.

23 THE WITNESS: Thank you, Your Honor.

24 THE COURT: Mr. Kraeutler, you may
25 proceed.

1 MR. KRAEUTLER: Thank you, Your Honor.

2 ANIL SINGHAL, DEFENDANTS' WITNESS, SWORN

3 DIRECT EXAMINATION

4 BY MR. KRAEUTLER:

5 Q. Good afternoon, Mr. Singhal.

6 A. Good afternoon.

7 Q. Would you please introduce yourself to the
8 jury?

9 A. I'm Anil Singhal. I'm the co-founder and CEO
10 of NetScout.

11 Q. Where did you grow up?

12 A. I grew up in New Delhi, India.

13 Q. And how did you come to live and work in the
14 United States?

15 A. I did my graduation -- Bachelor of Science in
16 electrical engineering in India.

17 And then soon after that, in '76, I came here
18 for higher studies. And I was fascinated by computer
19 science, and I had just taken one or two courses, and I
20 wanted to go to the best school. And obviously, all the
21 best schools were in U.S. And my father was for it,
22 even though he's from the middle class, he had to take
23 mortgage on his house to send me here.

24 Q. And why did you choose to come to the United
25 States?

1 A. For -- for higher studies in computer science.
2 In a way, I was changing my career from electrical
3 engineering to software, and computers were just up and
4 coming, very early stage. And like I said earlier, I
5 was fascinated by that field.

6 Q. Are you a U.S. citizen?

7 A. Yes.

8 Q. When did you become a U.S. citizen?

9 A. Late '90s.

10 Q. And -- and are you married?

11 A. Yes. For 37 years. And I have two daughters
12 age 27 and 25.

13 Q. Great.

14 And -- and where do you live?

15 A. I live in Carlisle, Massachusetts, it's a
16 suburb of Boston.

17 Q. Please describe your educational background.

18 A. Like I said earlier, I have a Bachelor's
19 degree in computer -- in electrical engineering from
20 India. And I have a Master's in computer science from
21 University of Illinois in Urbana-Champaign.

22 Q. Please tell the jury when and how NetScout was
23 created.

24 A. So after my graduation from University of
25 Illinois in '79, I went to work for a minicomputer

1 company in Boston for about six years. And then I met
2 the other co-founder who also worked there, but I didn't
3 know him before, and we had some thoughts about doing
4 something interesting in the networking area, and that's
5 how the NetScout was started as -- originally was
6 Frontier Software in 1984.

7 Q. Did the name of the company change at some
8 point?

9 A. Yes, it changed to NetScout some time in -- I
10 would say mid to late '90s.

11 Q. And why did the name change to NetScout?

12 A. We were thinking of going public on NASDAQ,
13 and a lot of companies named Frontier -- there was
14 Frontier Communication and Frontier Airlines, and on the
15 advisor side it's very confusing -- Frontier name is
16 very confusing. It just so happened that our product
17 name was called NetScout, and we were fairly well known
18 by that time. So it was very convenient to use the name
19 NetScout for the company, also.

20 Q. How did you fund the company in the beginning?

21 A. We were less than 10 people. We were -- most
22 of the funding came from -- the idea which we had was
23 very new, and -- and people didn't believe in, so it was
24 very hard to get funding. So we basically were
25 consulting and putting about half of our income into the

1 company to fund the side projects, sometimes working in
2 the evenings and in the early stages for at least I
3 would say seven, eight years, and that's how the company
4 was funded.

5 Q. And what was the idea you had for products?

6 A. We wanted to do something in the networking
7 space which was upcoming at that time, and -- and we had
8 heard about a product called protocol analyzer, which
9 was used to troubleshoot network problems. But you
10 always have to carry a -- a machine to the problem. So
11 if you are in Boston as a company and you have a problem
12 in Texas, somebody will have to come to Texas, bring
13 that machine with them, hook up to the network, and then
14 try to troubleshoot the problem. But the problem had
15 been gone already, and so now you have to wait for
16 solving the problem.

17 So we said why don't we put a permanent device
18 which we created the word "probe" in the industry, and
19 -- and why don't we put the permanent device on the
20 network, let the customer see the screens in Boston and
21 so you don't have to draw -- go to the place. And plus,
22 this can be a 7 by 24 device. So the idea was to create
23 a Next-Generation protocol analyzer which we called
24 network -- network monitoring probe.

25 Q. Okay. So just to -- just to fill this out a

1 little bit, at the time that you decided to begin to
2 develop a product, there were analyzers that were being
3 sold?

4 A. Yeah, that's when they were called protocol
5 analyzers.

6 Q. And the analyzer is what you described as the
7 machine that would have to be carried to the particular
8 spot on the network that you wanted to analyze; is that
9 correct?

10 A. Yes. And that -- that's why they were, in
11 fact, called portable protocol analyzers. They were
12 portable.

13 Q. And what was the size of these devices?

14 A. In the early days, they used to be hundred
15 pounds. And they were really not portable. But slowly,
16 when Dell came around and many other companies came
17 around, you got down to about 15-pound type boxes, not
18 as small as laptops are today, but in those days, 15
19 pounds was a very small machine.

20 MR. KRAEUTLER: Your Honor, may I just
21 ask a question of my co-counsel?

22 THE COURT: You may consult with the
23 co-counsel.

24 Q. (By Mr. Kraeutler) And, Mr. Singhal, at the
25 time that you and Mr. Popat began to develop what you

1 described as a remote monitoring probe, were -- were
2 other companies either developing or selling probes, as
3 opposed to the analyzers that had to be carried to the
4 place of the problem?

5 A. Unbeknownst to us, it seems there are other
6 companies who were working on similar things. As
7 happened with any innovation, multiple people are
8 thinking about good ideas at the same time. But at the
9 time we came up with this idea, we didn't know anyone
10 who was -- was developing the monitoring probes.

11 Q. And what is the business of NetScout today?

12 A. It's basically using -- monitoring the
13 NetScout, using deep packet classification, deep packet
14 inspection, but end up we have come long way along to
15 how do we use this information. We use this information
16 initially for network monitoring troubleshooting
17 problems, but networks became stable, we used this
18 information to create billing records, and that was in
19 2001. But now fast forward right now, everyone is using
20 networks, even the phone companies are using networks.
21 There's the Internet. So now the use cases have evolved
22 to cyber security, big data analytics, even -- even IBM
23 work group is thinking of utilizing some of the things
24 we do as the data.

25 Q. You referred to deep packet inspection and

1 deep packet classification. What is deep packet
2 inspection?

3 A. So this is a word which is around in the
4 industry for almost 30 years. And when you send an
5 email to somebody else or when you send a file to
6 somebody else, that information is sent in segments --
7 small segments, and those are called packets.

8 So in order for somebody to say did the file
9 reach on the other side or what are the size of the
10 file, what kind of file it was, or who was sending that
11 file, that all the act of doing that is to read a packet
12 and one-by-one and then do deep packet classification or
13 deep packet inspection. You inspect the packet for the
14 purpose of classification to find out all these things.

15 And there are hundreds and thousands of
16 protocols like that. So that's what deep packet
17 inspection and deep packet classification was.

18 This was there in the protocol analyzer world
19 before even NetScout thought of the idea of probes.
20 Then we were the first one who applied -- or we thought
21 we were the one to apply deep packet classification and
22 deep packet inspection to probes, which as I mentioned,
23 7 by 24 devices. And then it officially became RMON
24 standard. And sometime in the later on, companies like
25 Cisco and Ericsson, they also started using as a

1 part-time job, but the field network monitoring part,
2 protocol analyzing part, DPC and DPI have been around
3 for 30 years.

4 Q. All right. When you say 30 years, would that
5 be since the mid-1980s?

6 A. Yes.

7 Q. Does NetScout have a company motto?

8 A. Yes. The model has changed without
9 necessarily changing our mission. Initially, we started
10 at network is the business. So we exist -- you are
11 going to conduct your business on your network. So if
12 you're not able to -- if you are going to have network
13 problem, then you'll have business problem. That was in
14 the '90s.

15 But four years ago, as the company got bigger,
16 we had created a new tag line called guardians of the
17 connected world. And people have often asked me, even
18 sometime inside NetScout and our employees and
19 investors, what does that mean. And I -- they think
20 that it's just about our leadership being the No. 1
21 player in this space. I said: No, it's not just about
22 that. It's -- at NetScout, it's about solving some of
23 the toughest problem, taking responsibility for this
24 industry. If you're a leader, you can't be just
25 responsible for your company. You have to be

1 responsible for the industry. And we are going to come
2 up with new ways of -- of solving this problems. And
3 sometime I say we are not a charity. We are not a
4 non-profit, but we are still a public service
5 organization, meaning we're going to do the service and
6 then get paid.

7 So that's the NetScout story. But there's a
8 second part to you, if you'll allow me to mention, which
9 is personal for me, is a lot of people say we came to
10 the best place. In fact, I have talked about doing some
11 of the award ceremonies that only in America you can
12 achieve the American dream, and other people may have
13 said that, too. So they say, oh, so you really achieved
14 the American dream. And I say, yes and no. I have
15 achieved American dream, but that's only Part 1. Part 2
16 is giving back to America.

17 So personally, I'm on that mission for last
18 six, seven years. So guardian of the connected world,
19 meaning everything is connected and if something goes
20 wrong, nothing works, is the team which has a bigger
21 meaning, both for NetScout as a company and personally
22 for me.

23 Q. Now, prior to 2015, who were NetScout's
24 customers for net -- for remote monitoring probes?

25 A. Prior to 2015?

1 Q. Yes.

2 A. Yeah. So we don't call a product anymore
3 monitoring probe for last 15 years, but if you -- if you
4 look at the first remote monitoring probe from NetScout
5 was in '92. At that time, bulk of the customers were
6 banks. And then we became pharmaceutical, then it
7 became railroad companies. We had oil companies. And
8 we have over thousand customers, big IT organizations.
9 They all run different applications, but they're all
10 required us to monitor them.

11 Then after 2005 or 2006, we also started
12 selling to phone company, but that was a small portion
13 of the business.

14 After 2015, we have started using our solution
15 for cyber security, also. So, basically, network data
16 is called gold. It's ultimate source of rich
17 information. You can solve a lot of interesting
18 problem, but you have to make the solution affordable.
19 You have to make -- get the results fast. And -- and
20 sometime I say a blood test results are going to take
21 long time. Nobody's going to use it for DNA evidence.
22 So this is how I feel strongly about it.

23 So the mission of the company of using network
24 monitoring to solve different problems, next generation
25 problem, keeps change -- it stays the same, but what you

1 do with the mission has evolved over the last 25 years.

2 Q. So the -- the organizations you mentioned,
3 railroads and banks and so forth, would it be fair to
4 call them enterprise data system customers?

5 A. That's right. We call enterprise organization
6 or carrier organization, those are the phone companies
7 versus enterprise. But as time is passing by the
8 differentiation with the cloud and other things, it's
9 sort of disappearing. And there are more -- we have the
10 unique advantage that we can bring in expertise from one
11 side to another.

12 And -- but you're right, if I go back 10 years
13 ago, then that was a very clear distinction that
14 NetScout was more on the enterprise side. And later on
15 I can talk about that Tektronix, which we bought, was
16 mainly on the phone company side.

17 Q. And prior to 2015, was the United States
18 Government also a customer?

19 A. Yes, almost all the civil -- civilian
20 department, our product was used even in Iraq war in
21 tanks. We were -- we sell to DOD, we sell to Homeland
22 Security, we sell to the weather service. So anybody
23 who has a big IT organization has -- has a reason to use
24 our product.

25 Q. And prior to 2015, was the United States

1 Government a customer?

2 A. Yes.

3 Q. I'm sorry, the United States Armed Forces a
4 customer?

5 A. Yes.

6 Q. Approximately how many enterprise data network
7 customers does NetScout have today?

8 A. I think it's over 1,000.

9 Q. And where are they located?

10 A. 80 percent of business comes from United
11 States, and mostly -- almost all states have one or two
12 customers. And then -- but we sell into 50 countries.
13 So we have customers all over the place, even the UK --
14 UK federal government and Defense Department use our
15 product. NATO uses our product.

16 Q. During your time at NetScout, have you
17 personally been involved in developing products?

18 A. Yes.

19 Q. And describe your involvement, please.

20 A. Since -- from -- in the early days, like I
21 said, first three, four years were doing consulting from
22 '84 to '87 and '88, then we created the first
23 proprietary probe.

24 And then for the next 10 years, we were very
25 actively developing the RMON probe, and I was involved

1 in every single aspect. We were very small, including
2 writing all the code, all the software for RMON1 and
3 RMON2.

4 And then after '98, I've been mostly involved
5 in the -- in the design of the -- the product. I am
6 not -- obviously, since we went public, I have other
7 responsibility, but I'm very particularly involved with
8 all the engineers and design. Obviously, I don't do any
9 programming now since '98.

10 Q. Who decided to acquire Tektronix Texas?

11 A. I recommended this to the NetScout board of
12 directors, and that's how it happened.

13 Q. Why did you recommend acquiring Tektronix?

14 A. We thought that their solution and expertise
15 was very complementary to NetScout. They were the
16 expert in the voice area, and NetScout was the expert in
17 the data area. These worlds were coming together. If
18 you look at the MPE, Voice over IP, I don't know that
19 that many people had heard about it now to cut down the
20 cost, people are trying to use IP network for voice,
21 also.

22 So they had the expertise since mid '90s in
23 that area through the GeoProbe product line, and
24 NetScout had the expertise on the data side.

25 And second thing was they were actually had a

1 very good application for tracing somebody's calls. So
2 Verizon makes the -- if you call -- make a call on
3 Verizon, you can't get through, then you will call
4 Verizon customer support, and they will be using the
5 Tektronix product to trace the call.

6 NetScout was doing different things with the
7 data. We were looking at how many calls people were
8 making per hour, about five minutes and all that. And
9 customer had to choose should I buy product A or product
10 B when they couldn't afford both of them.

11 So we said if you combine them together, we
12 can actually provide great service to the customer, and
13 -- and then use the carrier relationship with Tektronix
14 have to grow faster.

15 And so we -- it looked very complementary.
16 But we didn't just buy Tektronix, we bought a group of
17 company which included Tektronix called the Danaher
18 Communication Business which was seven, eight companies.
19 So other things they do was WiFi monitoring, you have
20 WiFi in your environment. How you monitor if WiFi is
21 working. There was a cyber security company -- they're
22 the number one player in the denial-of-service attack.
23 So it was a group of companies, they basically -- the
24 parent company exited the business, and we bought all of
25 them, Tektronix being the biggest part of that. And --

1 and that's -- that's the reason we acquired them.

2 Q. All right. So you referenced the GeoProbe
3 products. Those were products of Tektronix prior to the
4 acquisition?

5 A. Yes, GeoProbe was the generic name of line of
6 products, different model numbers which was --

7 Q. And what was the functionality of those
8 products?

9 A. They were basically used for voice networks by
10 phone company. They were also used for data network,
11 but most of the time data network portion was leveraged
12 by a firm by a customer through NetScout. And they were
13 using it for call tracing, tracing a call end-to-end,
14 all the way from cell tower -- they were doing some
15 other things like in the radio access network if there's
16 a problem then you have to -- you have to diagnose the
17 problem. So they were -- but they're all tied to the
18 phone company customers, hundred percent of the business
19 was in that area.

20 Q. Have the GeoProbe products been changed at all
21 since 2015?

22 A. Yes.

23 Q. How?

24 A. We no longer use that as a platform. We
25 have -- it's called push and pull. Push means this is

1 what we're going to sell, but if a customer demands the
2 old product, we'll still sell to. The majority of our
3 products now includes the NetScout platform in which we
4 have taken some of the software from the GeoProbe and
5 included that.

6 As I mentioned earlier, people didn't want to
7 buy two boxes. Imagine having two black boxes in the
8 plane. It's going to be very expensive. And -- and if
9 you can do with one, so that's what we have done.

10 So we have created a new platform called ISNG
11 InfiniStream Next-Generation. This is what we are
12 selling. Some old customers still for community reasons
13 for voice here and there do buy the GeoProbe, and but
14 that -- so there's a big change since 2015.

15 Q. All right. So one of the products in this
16 case is the G10 probe. That -- if I understand your
17 testimony, that probe remains unchanged, but it's only
18 sold if a customer asks for it?

19 A. That's right.

20 Q. Is that also true of the GeoBlade?

21 A. Yes.

22 Q. And are new products being delivered --
23 developed for the future?

24 A. Yeah, that's the ISGN product which includes
25 the software from GeoProbe and GeoBlade, but not the

1 software which was already there in the NetScout probe.
2 That had been removed from the combined solution.

3 Q. Mr. Singhal, at the time that you formed
4 Frontier in 1984, did the Internet exist?

5 A. Yes, it was in infancy stage.

6 Q. What were computer networks like at that time?

7 A. They were very low speed. Everything was not
8 connected to everything. There were a lot of problems,
9 not everyone using network computers. There were many
10 different ways to connect. Today, there is something
11 called TCP/IP protocol which is the standard which is
12 used 95 percent of the time or probably hundred percent
13 of the time. In those days, there were 10 different
14 competing way to communicate. There were no standards,
15 big standards, and so I would say sort of chaos which
16 happens in the early stages of any new market.

17 Q. And -- and had the -- had network
18 communications changed significantly by 1989 when you
19 introduced your first product?

20 A. Not significantly, but, yes, it has matured
21 somewhat in the five-year period.

22 Q. What was the first product that you and
23 Mr. Popat developed?

24 A. We developed a -- a probe. In fact, we used
25 to call it remote monitoring probe, and it was called

1 LAN Vista.

2 Q. All right. And when you say LAN Vista, that
3 is capital A -- L, capital A, capital N, local area
4 network?

5 A. Yeah, local area network.

6 Q. And what made -- what type of product was the
7 LAN Vista?

8 A. It was a remote monitoring probe using
9 proprietary technology then and some creative idea,
10 innovation NetScout had.

11 Q. Did Frontier sell the LAN Vista probe?

12 A. No. We sold it to a third party because we
13 didn't have money or resources to sell. So we were just
14 a group of engineers. So we partnered with a company
15 which privately label our product and sold it in the
16 market.

17 Q. What kinds of customers bought the LAN Vista?

18 A. Similar customers, banks and other IT
19 organizations.

20 Q. Was the product commercially successful?

21 A. No, it was not because it was -- looks like a
22 great solution to a problem people didn't appreciate.

23 Q. What do you mean by that?

24 A. Well, it looks like this was a -- this was a
25 very new idea, creative idea, but maybe industry was not

1 aware of it, so there were a lot of marketing required
2 to create awareness about -- not only do you have to
3 provide a good car, but you have to tell people, hey,
4 this car is very useful. It gets you -- so awareness
5 about -- about why you need this was -- was beyond the
6 scope of -- of a small company, including the partner we
7 had.

8 Q. Who wrote the code for the LAN Vista?

9 A. So basically, there is a classification code
10 and inspection -- deep packet inspection code and remote
11 monitoring code, that -- all of it was written by me.
12 But there are other code which it makes up a probe, and
13 that was written by three or four other engineers.

14 Q. How many employees did NetScout or Frontier
15 have at the time?

16 A. Less than 10.

17 Q. Sometime after Frontier began to sell the LAN
18 Vista probe, did you become involved in an organization
19 known as the Internet Engineering Task Force?

20 A. Yes, in 1990.

21 Q. And is that also known as the IETF?

22 A. Yes.

23 Q. What is the IETF?

24 A. IETF as -- as spelled out, Internet
25 Engineering Task Force. It's goal is to develop open

1 standards for the community so that Product A can work
2 with Product B. For example, one of the standard is
3 TCP/IP, so I can use it -- Oracle server -- I can use --

4 (Phone ringing.)

5 THE COURT: Just a minute. Let's take it
6 back to the jury room.

7 THE JUROR: I meant to give it to him
8 earlier. I swear it was inadvertent.

9 THE COURT: Not a problem.

10 THE JUROR: I hate the thing.

11 THE COURT: Not a problem.

12 All right. Let's continue. Go ahead.

13 Q. (By Mr. Kraeutler) Mr. Singhal, you mentioned
14 that the IETF developed standards. What -- what
15 standards -- what is a standard in the context of the
16 IETF's activities?

17 A. So -- so I was about to mention that as an
18 example of the standard is if you buy a sailboat from
19 Oracle, and you buy a desktop from Dell, if they don't
20 talk to each other, then you cannot transfer files. So
21 standards is a way to implement something in both
22 machine by different vendor, even potential competitor,
23 so that this communication can happen.

24 So there are literally hundreds of standards
25 and -- which is -- which is basically a way of doing

1 things, and standardizing. And then there is a
2 compliance happen -- if a task happens between the
3 community of -- of vendors where basically they make
4 sure that they're compliant before they're put into the
5 market.

6 So that was -- so the host of standard like
7 that is a community of thousands of people worldwide,
8 and it's -- it's truly public service organization. So
9 at that time, there was a new standard Google was
10 starting from somebody, a professor at MIT -- I think
11 it's in '91, Jeff Davin, and called RMON. And my
12 partner, Narendra Popat, he happened to hear about it.
13 He said: That's a great thing. We are having trouble
14 getting awareness about what we do. And, in fact, the
15 name of the standard is what you are calling of a
16 product, the RMON thing. So why don't we join that and
17 -- and so that's how I got involved.

18 Q. How long has the IETF been around?

19 A. Maybe 40 plus years.

20 Q. And you mentioned an RMON Working Group. Is
21 the technical work of the IETF done through working
22 groups?

23 A. Yes. There is working group for each
24 standard, and there's a working group committee, which
25 is a group of members for both academy and -- and

1 commercial side.

2 Q. And at the time that you were -- you
3 considered joining the RMON Working Group, how many
4 people were involved in that particular working group?

5 A. I would say about six or seven companies and
6 maybe total of 10 people or so because sometimes there
7 were a couple of people from one company.

8 Q. You mentioned a Chuck Davin from MIT. Was
9 Mr. Davin a professor at MIT?

10 A. I believe so.

11 Q. And were there other people from higher
12 educational institutions, or was everyone from
13 companies?

14 A. No. There was Steve Waldbusser who was from
15 Carnegie-Mellon University.

16 Q. When did you become involved in the RMON
17 Working Group in relation to the formation of the
18 working group?

19 A. I think it was very early stage, maybe just a
20 few months afterwards.

21 Q. Why did you become involved?

22 A. Well, it was -- it was a very interesting
23 decision, and as I mentioned earlier, the problem we
24 face with LAN Vista was we were a small fish in a small
25 pond, maybe not even a pond. And so we said how -- how

1 can we be at least a small fish in a big pond? And --
2 so that everyone is aware -- if everyone is looking for
3 RMON products, remote monitoring probe products, then
4 the best product will win. And so we said it's better
5 to contribute our proprietary technology, which we had
6 put in LAN Vista to the community and learn from other
7 people. And so people like Novell, HP, Hewlett-Packard,
8 and some other companies felt the same way. And -- and
9 that's how this group was born.

10 It was amazing competitors forming and
11 contributing their -- their innovations for proprietary
12 solution, because they all wanted to increase the market
13 size, increase the size of the pot.

14 Q. All right. So they were all interested in the
15 size of the pond?

16 A. Yes, they were very interested in bringing
17 this new way of doing things to the market. That was
18 the biggest most important thing for everyone.

19 Q. And I assume that HP, for example, didn't want
20 to be a small fish in a big pond?

21 A. Well, HP has had lot of small fishes. HP does
22 50 different things. So even they were in a small --
23 small fish in this pond for this kind of business.

24 Q. What was Mr. Waldbusser's role in the RMON
25 Working Group at the time you became involved?

1 A. For every committee -- working group
2 committee, there is a working group, and there is an
3 author and a moderator. And so Steve's role was very
4 important. He was the author and moderator and -- which
5 was very important. He was probably the only
6 independent person in the room, truly independent. He
7 was not a vendor. He belonged to Carnegie-Mellon
8 University, and he was associated with the IT
9 organization prior to that.

10 THE COURT: Mr. Singhal, if I could, let
11 me ask you not to refer to Mr. Waldbusser by Steve, not
12 by first name only. Please use complete names.

13 THE WITNESS: Okay. Sorry.

14 THE COURT: Let's continue.

15 Q. (By Mr. Kraeutler) Was the RMON Working Group
16 trying to solve a particular problem?

17 A. Yes, it was trying to move from a reactive
18 protocol analyzer, which I described earlier to 7 by 24
19 monitoring. And so that you can be most proactive about
20 solving the problem, not always chasing the problem of
21 yesterday, but solving the problem, which is about to
22 come in and perhaps even prevent those problems.

23 Q. So when you say 7 by 24, you mean 24 hours a
24 day, seven days a week?

25 A. Yes, permanently connecting a device to the

1 network which listens, then does deep packet
2 classification, deep packet inspection, look at the
3 traffic, all the stuff which was described in RMON
4 standard.

5 Q. Over what period of time did you participate
6 in the RMON Working Group?

7 A. For -- for the entire time, '91 -- I would say
8 '90 to -- all the way to '97.

9 Q. What did you do as a member of the working
10 group?

11 A. That almost became 50 percent of my job. I
12 would attend all the meetings, which sometimes it will
13 be two or three -- at least once a year, but most likely
14 two and three in the early days. I'll be on the emails.
15 I'll be on calls. I'll be participating in the meetings
16 and developing code, participating in -- in the
17 compliance testing, some of it which happened at
18 Carnegie-Mellon University.

19 Q. Did you contribute anything to the working
20 group?

21 A. Yeah. Almost the entire thing which we
22 developed for LAN Vista, we gave it to the committee.

23 Q. Why?

24 A. Like I said, to be -- if other people are
25 contributing voluntarily then we have to do that, too.

1 So RMON was not just a one-person effort. We
2 contributed some part, other people contributed other
3 part, and -- and I think there was really -- it was
4 really -- I mean, very good collaboration, and I didn't
5 feel that people were hiding. They were all trying to
6 create a standard which is a super set of the technology
7 from all the vendors which are proprietary and -- and --
8 but preventing the market to grow.

9 Q. And was the idea that that super set would
10 become a blueprint for products for the future?

11 A. Yes.

12 Q. Where did your meetings take place?

13 A. It was some time in hotels, sometimes in
14 Carnegie Mellon University. The IETF holds a yearly
15 meeting in different countries. I believe there was one
16 in Sweden. And so it was in different locations.

17 Q. Did the working group produce a standard at
18 some point?

19 A. Yes, it produced two standard, one in '91
20 and -- called RMON1, and then second one in -- I would
21 say around '96, '97 called RMON2.

22 Q. Let me direct your attention to Defendants'
23 Exhibit 83.

24 MR. KRAEUTLER: Mr. Goodin, if you could
25 put up the first page on the screen.

1 And if you could blow up, please, the top
2 part that shows the title and so forth.

3 Q. (By Mr. Kraeutler) And, Mr. Singhal, can you
4 identify this particular document?

5 A. Yeah. This was the RMON -- the product of the
6 RMON1 -- with the working group called the RMON1
7 standard.

8 Q. And when was this standard issued?

9 A. It says here November '91.

10 Q. And when a standard was issued, was it
11 published?

12 A. Yes.

13 Q. How was it published?

14 A. It was in various IETF websites, through
15 emails, many different ways to distribute. It was open
16 access to anyone in the world.

17 Q. Were there multiple IETF websites?

18 A. I'm -- now there are. But I'm not sure
19 whether it was at that time.

20 Q. And you mentioned email communication. During
21 the period of time that you were developing the
22 standard, were there communications among the various
23 members of the working group?

24 A. Yes, very active and sometime phone calls,
25 sometime peer-to-peer communications, sometimes group

1 communication.

2 Q. What kinds of information were communicated by
3 email?

4 A. This draft had many different versions,
5 this -- this document had many different versions. So
6 these were added comments. I mean, not everyone agreed
7 to everything. So there was a process of discussion and
8 everything. So those are the -- basically, anything
9 which could be harder to discuss, we would get together
10 to meet. Anything which could be done, basic editing
11 and all those, was done via email.

12 Q. Referring to the portion of the document
13 that's been enlarged, who was the author of the RMON1
14 standard?

15 A. Yeah, Steve Waldbusser.

16 MR. KRAEUTLER: And, Mr. Goodin, let me
17 ask you to put up Page 4104 of the same document.

18 And could you enlarge the portion at the
19 bottom that says author's address?

20 Q. (By Mr. Kraeutler) And, Mr. Singhal, does
21 this also show that Steve Waldbusser was the author of
22 the RMON1 standard?

23 A. Yes.

24 MR. KRAEUTLER: And, Mr. Goodin, could
25 you please now put up the preceding page, Page 4103.

1 And could you enlarge Section 7,
2 acknowledgments?

3 Q. (By Mr. Kraeutler) Mr. Singhal, what
4 information is shown in Section 7?

5 A. This shows all the committee members who
6 actively participated in development of the standard.

7 Q. And is anyone from Frontier acknowledged?

8 A. Yeah, myself.

9 Q. Is Mr. Dietz acknowledged in this document?

10 A. No.

11 Q. After Defendants' Exhibit 83, the RMON1
12 standard issued, what, if anything, did NetScout do?

13 A. We were actually developing the product while
14 the standard was being developed. So very soon after
15 that, I would say within six months after that, in maybe
16 early '92 or late '91, we actually released the
17 commercial product for RMON, RMON1, the remote
18 monitoring probe.

19 Q. What was the name of that product?

20 A. It was NetScout Model No. 6010.

21 MR. KRAEUTLER: Your Honor, may I
22 approach the witness?

23 THE COURT: You may.

24 MR. KRAEUTLER: May I ask the assistance
25 of the court officer?

1 Thank you very much.

2 And, Mr. Goodin, could you put up,
3 please, the photograph of Defendants' Exhibit 189.

4 Q. (By Mr. Kraeutler) Mr. Singhal, I've placed
5 before you or asked to have placed before you a physical
6 exhibit that has been marked Defendants' Exhibit 189.

7 Can you identify that particular physical
8 exhibit?

9 A. Yes.

10 Q. And what is it?

11 A. It is the first probe released to the market,
12 first RMON probe in late '91, early '92.

13 Q. How was the NetScout probe 6010 different than
14 the LAN Vista probe?

15 A. It included all the features of LAN Vista,
16 plus it included other versions which were not in LAN
17 Vista but in the RMON standard.

18 But more importantly, this -- this box would
19 be used to communicate with other people in the market,
20 whereas LAN -- LAN Vista was completely proprietary, it
21 only worked with NetScout application, but this could
22 supply data over something called SNMP protocol to other
23 third party, even competitors, and which was one of the
24 goal of RMON. So it was a super set of LAN Vista
25 functionality, maybe few things were not actually

1 included but bulk of it, contribution from other people,
2 but more importantly it was a standard based
3 implementation open -- open implement rather than a
4 proprietary.

5 Q. What role did you play in the version of -- in
6 the original version of the NetScout 6010 Probe that was
7 introduced to the market in 1992?

8 A. All the RMON-related code, software was
9 actually written by me, every single line.

10 Q. And so did you use the RMON1 standard as a
11 blueprint?

12 A. Yes.

13 Q. Did the NetScout 6010 Probe perform deep
14 packet inspection?

15 A. Yes.

16 Q. Did it perform deep packet classification?

17 A. Yes.

18 Q. In 1992?

19 A. It did that, but not to the extent of RMON2.
20 For example, there is a group called packet capture, and
21 that portion came from the protocol analyzer world, and
22 that did that. But the full scale deep packet
23 classification/inspection, even though it was there in
24 LAN Vista didn't come into RMON2. So it did basic DPI
25 classification.

1 So as an example that it could tell a machine
2 1 is talking to machine 2. But it couldn't tell whether
3 who was the user of machine 1. It couldn't tell Joey is
4 talking to Mary. It could tell some machine in -- in
5 this building 1 talk to machine 2. So even to do that
6 you had to do deep packet classification. So it was
7 deep versus deeper packet classification.

8 Q. So when the RMON1 standard was published, did
9 other manufacturers begin to develop RMON1 devices?

10 A. Yes, almost all the people who were there in
11 the committee, they had their own versions, but very
12 interestingly, we started getting contacts from other
13 companies to use -- they found out that I was involved,
14 NetScout was prominently involved, and so this was the
15 power of awareness. They started calling us -- an
16 update -- Cisco -- some people started calling us saying
17 we'd like to use your technology in our box and started
18 developing from scratch.

19 Q. What, if anything, did the RMON Working Group
20 do after issuing the RMON1 standard?

21 A. Actually, RMON1 as published was actually
22 smaller than what was already developed, but Steve
23 Waldbusser and all the committee member thought there's
24 too big of a standard to get approved in the first
25 draft. So we artificially split it to RMON1 and

1 immediately started working on RMON2.

2 Q. Did the membership of the group change after
3 RMON1 was published?

4 A. Yes, because it was creating such a big
5 awareness and grew -- the -- the group probably went all
6 the way from maybe 10 or so people to about 30-plus
7 people at different times.

8 Q. And I already mentioned Mr. Dietz's name, but
9 I -- I didn't ask you the foundation I should have. Do
10 you know someone named Russell Dietz?

11 A. Yes.

12 Q. When did you first meet Mr. Dietz?

13 A. I think sometime during the RMON2 standard
14 development.

15 Q. Did Mr. Dietz join the RMON Working Group?

16 A. RMON2 Working Group, yes.

17 Q. When?

18 A. Maybe '93, '94.

19 Q. And did he remain involved until the RMON2
20 standard was published?

21 A. Yes.

22 Q. Did Mr. Dietz participate in the RMON Working
23 Group meetings?

24 A. As far as I know, yes.

25 Q. What was discussed during the meetings?

1 A. It was all forms of deep packet classification
2 and deep packet inspection, how to convert metrics to
3 collect, why we should collect them, what applications
4 are important, and in particular, a feature called
5 TrackSessions which -- which was very complicated,
6 applied to some of the applications, and all that was
7 discussed in all kinds of details and with some intense
8 discussion because different people have different
9 ideas, but ultimately we did reach consensus and
10 published the RMON2 standard.

11 Q. Have you read the Court's construction of the
12 terms "conversational flow" and "conversational flow
13 sequence" from the patents?

14 A. Yes.

15 Q. And how, if at all, do those terms and their
16 constructions relate to TrackSessions?

17 MR. SKIERMONT: I'm going to object, Your
18 Honor. If I can approach?

19 THE COURT: Approach the bench.

20 (Bench conference.)

21 MR. SKIERMONT: I think -- the objection
22 is he's soliciting expert testimony from a fact witness.

23 THE COURT: The witness is not going to
24 explain the Court's claim construction to the jury.

25 MR. KRAEUTLER: No.

1 THE COURT: Or apply it as an expert
2 would. Unless you have some response otherwise, I'm
3 going to sustain the objection.

4 MR. KRAEUTLER: Okay, Your Honor. I can
5 move on.

6 MR. SKIERMONT: Thank you.

7 (Bench conference concluded.)

8 THE COURT: Objection sustained. Let's
9 proceed.

10 Q. (By Mr. Kraeutler) Did you, in the RMON
11 Working Group, discuss the need for devices that would
12 have the ability to recognize multiple connections or
13 exchanges of packets between a client and a server?

14 A. Yes.

15 Q. And did you discuss in particular the need to
16 be able to identify flows that involved more than one
17 well-known port and dynamically assigned port?

18 A. Yeah, one well-known port and one dynamically
19 assigned port.

20 Q. Did the working group produce a publication
21 that addressed the issue of multiple connections and
22 being able to monitor them?

23 A. Yes.

24 Q. And what was that?

25 A. It was called protocol identifier document,

1 which was a companion document to the RMON2 standard.

2 Q. And what information was contained in that
3 document?

4 A. It described what -- just maybe for a minute
5 just to describe, when you do deep packet inspection,
6 one of the purpose is -- and deep packet classification
7 is to see what was running on the network and how many
8 people were using it -- for example, how many people
9 were using email, how many people were doing file
10 transfers, things like that.

11 So to detect certain application, which we --
12 I refer to as complicated application, you had to do
13 more deeper analysis. You have to remember things
14 across multiple packets and traffic, and that feature
15 was called TrackSessions, but it didn't apply to every
16 application. It applied to certain protocols.

17 So this protocol identifier document explains
18 which application required this additional work in deep
19 packet classification to arrive at the right conclusion.

20 Q. Let me ask you to look at Defendants' Exhibit
21 58, which is in the book in front of you.

22 MR. KRAEUTLER: And, Mr. Goodin, if you
23 could bring up the first page of Defendants' Exhibit 58.

24 And if you could blow up, please, the top
25 portion down through the names. Thank you.

1 Q. (By Mr. Kraeutler) Mr. Singhal, I've placed
2 before you or caused to be placed before you a document
3 that has been marked Defendants' Exhibit 58, and do you
4 recognize that document?

5 A. Yes.

6 Q. What is that document?

7 A. That's the remote -- this is the RMON MIB
8 protocol identifier document I was talking about just a
9 minute ago.

10 Q. And was this document published?

11 A. Yes.

12 Q. When?

13 A. November '96.

14 Q. Was it published in the same manner as the
15 RMON1 standard?

16 A. Yes.

17 Q. So it was made available by email and through
18 distribution through multiple websites?

19 A. Yes.

20 Q. Let me direct your attention to Page 15158 of
21 the document.

22 MR. KRAEUTLER: And, Mr. Goodin, could
23 you enlarge Table 3.1 down to -- or that's -- that's
24 fine. And could you highlight, please, TrackSessions
25 and the lines that are adjacent to it?

1 Q. (By Mr. Kraeutler) Mr. Singhal, what
2 information is shown on this page of the document?

3 A. It describes a TrackSession feature which we
4 talk about earlier. If you read it, it says a correctly
5 attributes a -- a protocol or application which starts
6 on a well-known port but then all the transfer and rest
7 of the stuff is happening on a dynamically assigned
8 port. And if you don't implement this feature, for
9 example, for TFTP here, then you will wrongly identify
10 the amount of traffic, and -- in your probe.

11 Q. And did the RMON protocol identifiers'
12 document, Defendants' Exhibit 58, did it describe how
13 the TrackSessions' technique could be applied to
14 specific protocols?

15 A. Yes. This talks -- I mean, not the technique.
16 I mean, those were discussed. It was very well
17 understood. But it talks about at a very high level
18 that you have to remember multi-information from
19 multiple conversation flows to -- in order to be able to
20 correlate them.

21 Q. All right. And could I direct your attention
22 now to Page 015179?

23 MR. KRAEUTLER: And, Mr. Goodin, could
24 you -- well, let's begin by blowing up the -- the top of
25 the last -- the top four or five lines of the document.

1 And could you highlight SunRPC protocol
2 identifier?

3 Q. (By Mr. Kraeutler) And, Mr. Singhal, what --
4 what information -- what is -- do you recognize the term
5 "SunRPC protocol identifier"?

6 A. Yeah. This was an application or a protocol
7 developed by Sun Microsystem which is now part of
8 Oracle, and it is describing that this is one of those
9 special applications which requires the TrackSession
10 treatment.

11 Q. What does RPC stand for?

12 A. Remote procedure call.

13 Q. And how does it work?

14 A. It basically starts on a port mapper. It
15 starts -- basically, in order for you to talk to X, you
16 have to go and get the address of X from somewhere else.
17 And that's the two conversation flows. So you will go
18 to a well-known port place and say I want to do this,
19 who should I talk to. And those people will then
20 provide you that information. And by using the
21 TrackSession feature in the probe, you are able to
22 dynamically associate them and report the information
23 correctly to -- to the users.

24 Q. I should have been more specific in my
25 question. I'm not interested in how the functionality

1 of TrackSessions works. I'm interested in the Sun
2 remote procedure call. How would that be used by as a
3 person who -- by a person who was at a computer monitor?

4 A. Oh, there are applications using SunRPC. All
5 of these protocols are part of some software, and this
6 was the software from Sun Microsystem. And they have
7 something called NFS. They have ways to transfer files.
8 So the remote procedure call was something developed by
9 Sun Microsystem. And it was implemented in such a way
10 that in order for me to listen to the traffic and tell
11 you properly, I'll have to implement the TrackSession
12 feature.

13 Q. All right. And was it a means by which a
14 person at a computer terminal could perform an actual
15 function or operation on another computer at another
16 location?

17 A. Yes, I mean, it's basically the software on
18 one computer which utilizes this -- the end user is not
19 really aware that this is happening.

20 Q. All right.

21 MR. KRAEUTLER: And, Mr. Goodin, could
22 you put down that enlargement, and now show Pages 179 to
23 180.

24 And if you're able to enlarge that bottom
25 portion, decoding, and the continuation of the

1 paragraph.

2 Q. (By Mr. Kraeutler) Mr. Singhal, what -- I
3 have directed your attention to a section of the
4 document that bears the heading Decoding that begins at
5 the page -- bottom of Page 179 and continuous on the top
6 of Page 180.

7 What information is shown in that passage of
8 the document?

9 A. This says that the first packet of SunRPC,
10 which is the first one and it's called port mapper
11 program. And it's decoded statistically. And RFC1831
12 is Internet standard where Sun Microsystem said how RPC
13 works.

14 So they're asking us if you want to read it,
15 go ahead and read how it works.

16 But then it says any subsequent packet must be
17 decoded and correctly identified by remembering, and
18 that's what -- remembering is calling TrackSessions. So
19 remembering, you have to have a memory, you have to have
20 some session table, you need to have some flow-entries,
21 you have to do multiple things for the act of
22 remembering.

23 And once you see the second one, and then you
24 can correlate the two. And if you didn't do that, then
25 it will be called a bug in the RMON probe.

1 Q. And was all that functionality discussed by
2 the working group?

3 A. Yes, in -- I mean, all kinds of detail because
4 it was, I think, a -- a big amount of time was devoted
5 to this -- this aspect.

6 MR. KRAEUTLER: So let me now ask Mr.
7 Goodin to put down these pages and to put up the first
8 page of the document, 015144 and enlarge the first part
9 of the document again.

10 Q. (By Mr. Kraeutler) And Mr. Singhal, who are
11 the authors of the -- the -- of Defendants' Exhibit 58,
12 the -- the standard that includes TrackSessions?

13 A. Andy Bierman from Cisco Systems, Chris Bucci
14 from Network General, and Robin Iddon from 3Com.

15 Q. And now let me direct your attention to Page
16 15211?

17 MR. KRAEUTLER: And, Mr. Goodin, would
18 you please enlarge the acknowledgment section at the
19 bottom?

20 Q. (By Mr. Kraeutler) And, Mr. Singhal, what is
21 shown in this portion of the document?

22 A. At the end, the author is recognizing even
23 though all the committee member contributed to the
24 development, they special -- recognizing the special
25 contribution of three people who maybe went beyond the

1 call of duty to contribute to this document.

2 Q. And what were your contributions to this --
3 this draft standard -- standard that includes
4 TrackSessions?

5 A. We were doing some -- we had some ideas like
6 this in the LAN Vista product, and so we contributed to
7 that. As I mentioned on the RMON2 effort. I reviewed
8 all the drafts, by line-by-line, every single thing,
9 commented on them, made -- made suggestions, had calls.
10 I think that's what they're talking about here in the
11 acknowledgment.

12 Q. Let me ask you now to look at Defendants'
13 Exhibit 89 in your binder.

14 MR. KRAEUTLER: And, Mr. Goodin, if you
15 could put up the first Page of Defendants' Exhibit 89.

16 And if you could enlarge the top of the
17 page, please.

18 Q. (By Mr. Kraeutler) Mr. Singhal, do you
19 recognize this document?

20 A. Yes, this -- this is the parent document of
21 the protocol directory identified, which we saw earlier.
22 It's called the RMON2 standard document.

23 Q. When you say it's the parent document of
24 the -- of the earlier document, do you mean Defendants'
25 Exhibit 58, the Remote Network Monitoring MIB Protocol

1 Identifiers document?

2 A. That's right.

3 MR. SKIERMONT: Your Honor -- Your Honor,
4 I'm going to object as leading. Prior to highlighting
5 the dates and authors and whatnot, Counsel should lay a
6 foundation with the witness first so he's familiar with
7 the particular document he's putting on the screen.

8 THE COURT: Well, that's two different
9 objections. I'll certainly sustain it as to leading.

10 MR. SKIERMONT: Thank you.

11 THE COURT: Avoid leading questions,
12 Counsel, on direct.

13 MR. KRAEUTLER: I will, Your Honor.

14 THE COURT: Let's proceed.

15 Q. (By Mr. Kraeutler) So what did you mean when
16 you said that this was the parent document of
17 Defendants' Exhibit 58?

18 A. So remote monitoring RMON2 document says what
19 information you should collect on behalf of applications
20 or protocols. But the protocol identifier document
21 defines what application you should be looking at. So
22 they go hand-in-hand.

23 RMON2 defined what information you want to
24 collect, after you have done the deep packet
25 classification or inspection or TrackSessions. And the

1 protocol identifier say what other relevant application
2 you should be doing classification for. So it's almost
3 like appendix of the RMON2 document.

4 Q. And were both of these documents ultimately
5 adopted as standards by the IETF?

6 A. Yes, but most of the implementation started --
7 started coming around soon after '97.

8 Q. And how do you refer to these two documents?

9 A. I generally talk about RMON2. I don't
10 especially differentiate the -- the internal stuff.

11 Q. After RMON2 was published as standards or
12 draft standards but in late 1996 through January 1997,
13 what, if anything, did NetScout do?

14 A. I think we are constantly enhancing and
15 implementing part of this, including the development --
16 the standard development process. We're actually --
17 also, by that time we have quite a few customers on Wall
18 Street, and they were also asking us questions, hey, how
19 is this going. There was a lot of activity around this,
20 this was the height of the activity period. So -- so if
21 you were very involved either at engineering level or at
22 the committee level or -- or with the customers.

23 Q. Did you produce a product that would support
24 the standard?

25 A. Yes.

1 Q. And when was that product made available to
2 customers?

3 A. The unofficial version, it was available to
4 existing customers who were already using the RMON1
5 probe in early '98. But for the worldwide announcement
6 and everything, it was late '98.

7 Q. Okay. And when you say "existing customers
8 who had an RMON1 probe," was it possible to adapt the
9 physical Model 6010 that is in front of the jury
10 currently in order it have all the functionality of
11 RMON2?

12 A. Yes, people who were on support contract, they
13 got a free upgrade, and you could just download that
14 from a website or through a -- or a CD, and -- and
15 upgrade the software in the field.

16 Q. All right. So the same physical hardware
17 could be supported by revised software?

18 A. Yeah, that's true, but I wanted to mention
19 that by that time, we have 10 different models of the
20 product, for 10 megabits, hundred megabits, wide area
21 network. And so all of them use RMON2. But you're
22 right that anything which was sold, customer had a free
23 upgrade to RMON2.

24 Q. And how did they get that upgrade?

25 A. Either -- I don't remember exactly, but,

1 certainly, it was available on -- on disc and -- and --
2 or they could download it from a website.

3 Q. Did the -- I don't remember the revision
4 number of the software that fully implemented RMON2?

5 A. I think it was 4.5, NSP 4.5. NSP stands for
6 NetScout probe.

7 Q. Did -- did the NSP 4.5 probe perform deep
8 packet inspection?

9 A. Yes.

10 Q. Did it perform deep packet classification?

11 A. Yes.

12 Q. Did it contain the TrackSessions
13 functionality?

14 A. Yes.

15 Q. When you wrote this code, did you have the
16 benefit of any input from Mr. Dietz outside of any
17 discussions that occurred in the working group?

18 A. No, the development was all inside NetScout.

19 Q. And did you copy what anyone else was doing?

20 A. No. This implementation was all proprietary.
21 Everyone was implementing their own way, and obviously
22 there was no exchange of information about
23 implementation.

24 Q. Do you have any recollection of Mr. Dietz
25 contributing to the discussion regarding TrackSessions?

1 A. I don't remember, but I'm sure he was involved
2 in various discussion related to RMON2.

3 Q. Let me now ask you to look at Defendants'
4 Exhibit 92.

5 MR. KRAEUTLER: Mr. Goodin, if you could
6 put up the first page of that document.

7 Q. (By Mr. Kraeutler) Mr. Singhal, do you
8 recognize this document?

9 A. Yes.

10 Q. And what is it?

11 A. It's basically the information would we -- we
12 will share with the customer to say what is coming out
13 in the latest release of the software and what is the
14 future direction. So, typically, a product manager for
15 the -- any company will present this to the customer
16 saying this is what is coming out soon.

17 Q. And what is the date of the document?

18 A. October 26, 1998.

19 Q. I'm sorry. Let me direct your attention to
20 Page 253699. What information is shown on that
21 particular page?

22 A. It is showing all the -- these were the ones I
23 was talking about that NetScout had many more probes at
24 that time. Not just 6010. So this shows which release
25 which will support RMON2 at what time. And it is

1 showing -- I mean, out of here it should be saying Q1
2 99. So it's saying the most important model, including
3 6010, will support 4.5 which is RMON2 -- RMON2 will be
4 supported in -- in Q4 of '98, and then in the following
5 -- following quarter, it will support in all of the
6 models.

7 MR. KRAEUTLER: Mr. Goodin, could you
8 please take that portion that is over Q4 '98 and enlarge
9 it?

10 Q. (By Mr. Kraeutler) Again, the date of this
11 document was October 26, 1998?

12 A. Yes.

13 Q. And -- and what -- what does it indicate to
14 you that NSP 4.5 has shown over Q4 '98?

15 A. This says in Q4 '98 we'll be releasing three
16 things in the roadmap: Two new probe model numbers
17 called ClearChannel and Multiport Fast Ethernet and a
18 new software release called NSP 4.5, which includes
19 RMON2 functionality.

20 THE COURT: Counsel, approach the bench,
21 please.

22 MR. KRAEUTLER: Yes.

23 (Bench conference.)

24 THE COURT: How much more direct do you
25 have with this witness?

1 MR. KRAEUTLER: Just a few minutes.

2 THE COURT: Okay. We need to -- the jury
3 needs a recess, but if you're a few minutes away, we'll
4 finish that.

5 MR. KRAEUTLER: Okay. Thank you, Your
6 Honor.

7 (Bench conference concluded.)

8 THE COURT: Let's proceed.

9 Q. (By Mr. Kraeutler) Mr. Singhal, you've
10 mentioned all these model numbers. Would it be fair to
11 say that there had been some significant development
12 within the company between 1992, when the first RMON1
13 probe was introduced to the market, and 1998, when
14 the -- these new products were being introduced to the
15 market?

16 A. Yeah. I don't know -- if you mean by
17 significant like we had lot more engineers, we had
18 gotten some funding by that time, and so we had a much
19 bigger development effort than in '91.

20 MR. KRAEUTLER: Your Honor, I hope you
21 won't mind this clarification.

22 Q. (By Mr. Kraeutler) But when you pronounce
23 engineers, it sounds like -- almost like geniuses, and I
24 just want to make clear, you're just saying engineers?

25 A. Software engineers.

1 Q. Okay. Thank you.

2 And can you please now look at Exhibit 94?

3 MR. KRAEUTLER: Mr. Goodin, if you could
4 put up the first page.

5 Q. (By Mr. Kraeutler) Mr. Singhal, do you
6 recognize this document?

7 A. Yes.

8 Q. And what is it?

9 A. It's a training material which we will do
10 before -- to -- to our sales team at the start of any
11 major release before it goes out to the customers.

12 Q. What does AE stand for?

13 A. AE stands for application sales engineers.

14 Q. And were they part of your sales effort?

15 A. Yes. Every -- every sales team had one
16 salesperson and one sales engineer.

17 Q. Let me direct your attention to Page 253652.
18 And what information is shown on this particular page?

19 A. It's showing that -- that session tracking
20 feature is part of 4.5 release, NSP 4.5 release, and
21 supported application which use the session tracking
22 feature are TFTP, Passive FTP, Xwindows, and RPC.

23 Q. And RPC is remote procedure call?

24 A. Yeah, it's same as SunRPC.

25 Q. And what did it mean that session tracking

1 allows the probe to automatically track applications
2 that use multiple ports?

3 A. This means that we have implemented the
4 session -- special session tracking feature described
5 RMON2 and the protocol identified document in order for
6 us to currently identify complicated flows associated
7 with these four applications.

8 MR. KRAEUTLER: Your Honor, I have no
9 other questions at this time, and we'll pass the
10 witness.

11 THE COURT: All right. Ladies and
12 gentlemen, before the Plaintiff cross-examines this
13 witness, we're going to take a short recess. You may
14 simply close and leave your notebooks in your chairs.

15 Don't discuss the case, and we'll be back
16 here shortly to continue. The jury's excused for a
17 recess at this time.

18 COURT SECURITY OFFICER: All rise.

19 (Jury out.)

20 THE COURT: The Court stands in recess.

21 (Recess.)

22 (Jury out.)

23 COURT SECURITY OFFICER: All rise.

24 THE COURT: Be seated, please.

25 Are we ready for cross-examination,

1 Mr. Skiermont?

2 MR. SKIERMONT: Yes, Your Honor.

3 THE COURT: You may go to the podium.

4 MR. SKIERMONT: May we pass out some
5 binders, Your Honor?

6 THE COURT: Let's do that.

7 Let me mention this while we're waiting
8 on the courtroom deputy to return.

9 There seems to be an excessive amount of
10 whispering and moving around in the gallery. I've
11 noticed that the jury hasn't turned their heads as being
12 disruptive at this point, but if it seems that way to me
13 it's probably higher than it should be.

14 Let me just ask those of you in the
15 gallery to try to minimize any disruptions or whispering
16 or moving around except where absolutely necessary.

17 All right. Let's bring in the jury,
18 please, Mr. Elliott.

19 (Jury in.)

20 THE COURT: Please be seated.

21 All right. The Defendant having passed
22 the witness, we'll proceed with Plaintiff's
23 cross-examination of the witness.

24 You may proceed, Mr. Skiermont.

25 MR. SKIERMONT: Thank you, Your Honor.

CROSS-EXAMINATION

BY MR. SKIERMONT:

Q. Mr. Singhal, you'll agree with me that RMON1 does not talk about the application level, it only addresses the network level of the standard, correct?

A. Except that it define new -- the packet capture group implements the -- part of the classification, which was there in protocol analyzer. So it doesn't say that, but the packet capture group requires you to decode things, and so -- so that's what I was referencing to earlier.

MR. SKIERMONT: Ms. Vogtman, can you put up the -- not yet, but it's starting at 335.

Q. (By Mr. Skiermont) Mr. Singhal, you were deposed by Packet Intelligence in this case, correct?

A. Yes.

Q. And that was in May of this year?

A. I think so.

Q. And when your -- when you were giving your testimony by deposition, you were under oath, weren't you?

A. Yes.

MR. SKIERMONT: Ms. Vogtman, can you please put the clip up?

Q. (By Mr. Skiermont) At your deposition,

1 Mr. Singhal, you were posed a question: But it's either
2 RMON1 or RMON2, right?

3 ANSWER: It does make a difference because
4 RMON2 -- RMON1 doesn't talk about application level,
5 it's only network level, where RMON2 talks about that.

6 Were you asked that question, and did you give
7 that answer under oath?

8 A. Yes, I think so, yeah.

9 Q. Now, Mr. Singhal, you will also agree with me,
10 won't you, that the RMON standard covered organization
11 of packet information after that information was
12 collected at the network level?

13 A. Could you repeat it, please?

14 Q. Do you agree that the RMON standard covers
15 organization of packet information after that
16 information is collected, correct?

17 A. Yes.

18 Q. The RMON standard itself did not specify the
19 technique for collecting the data information, did it?

20 A. No, it was very well understood by everyone
21 because everyone has products before RMON -- RMON1.

22 MR. SKIERMONT: Ms. Vogtman, will you put
23 up the clip starting at 79?

24 Q. (By Mr. Skiermont) Mr. Singhal, at your
25 deposition where you were under oath, you were asked the

1 question: So the RMON standard itself did not specify
2 the technique, correct?

3 ANSWER: RMON standard assumed that you cannot
4 do any of the stuff without any DPI or DPC.

5 Were you asked that question, and did you give
6 that answer under oath?

7 MR. KRAEUTLER: Objection.

8 THE COURT: Just a minute. What's the
9 objection, counsel?

10 MR. KRAEUTLER: Improper impeachment.

11 THE COURT: Overruled.

12 Answer the question, Mr. Singhal.

13 A. Can you put it on the screen? Somehow it
14 disappeared on my screen.

15 Q. (By Mr. Skiermont) Certainly.

16 MR. SKIERMONT: Ms. Vogtman, can you help
17 us? Same clip, starting at 79 -- 79 -- Page 79,
18 Column -- Line 6 to 9.

19 A. Yes. And it's essentially the answer just --
20 I just gave right now, and understood -- it
21 was understood by everyone.

22 THE COURT: Just a minute, Mr. Singhal.

23 THE WITNESS: Sorry.

24 THE COURT: The question is -- restate
25 your question, Mr. Skiermont.

1 Q. (By Mr. Skiermont) Mr. Singhal, you were
2 asked at your deposition when you were under oath:

3 QUESTION: So the RMON standard itself did not
4 specify the technique, correct?

5 ANSWER: RMON standard assumed that you cannot
6 do any of the stuff without any DPI or DPC.

7 Did you -- were you asked that question, and
8 did you give that answer under oath?

9 A. Yes.

10 Q. And, in fact, on direct examination, you
11 actually corrected your lawyer on this point during
12 direct, didn't you, because he had suggested that it was
13 a technique. And you corrected him on direct and said
14 it did not specify the technique, right?

15 A. I don't remember that interaction.

16 Q. RMON2 is similar to the first RMON in that it
17 tells you how to present statistics after you collect
18 information, correct?

19 A. No. What RMON1 -- you can't do any
20 information -- RMON1 and RMON2 collect different level
21 of information. They do both after collection. You
22 can't -- you can count things without collecting.

23 Q. And so is your answer to my question yes?

24 A. Yes, but for both RMON1 and RMON2.

25 THE COURT: All right. Let me just stop

1 a minute.

2 Counsel, if you believe the witness is
3 nonresponsive, you don't need to ask him if that's a yes
4 or no. You need to tell me or raise it with the Court,
5 and I'll deal with any nonresponsiveness.

6 And, Mr. Singhal, you need to limit your
7 answers to the questions asked. Your Counsel is going
8 to have another opportunity to get back up and ask you
9 any follow-up questions he thinks are appropriate.

10 Therefore, you are to limit your answers
11 to the questions asked, all right?

12 THE WITNESS: Yes, Your Honor.

13 THE COURT: Okay. Let's proceed on that
14 basis.

15 MR. SKIERMONT: Thank you, Your Honor.

16 Q. (By Mr. Skiermont) Mr. Singhal, RMON2, like
17 RMON, the original, are similar in that both tell you
18 how to present statistics after you collect information,
19 correct?

20 A. Yes.

21 Q. And on direct examination, Mr. Singhal, I
22 believe I heard you say that during the IETF RMON
23 Working Group, you testified on direct there was no
24 exchange of information about implementation, correct?

25 A. Yes.

1 Q. And you also said on direct examination under
2 oath different companies implemented it in their own
3 way, correct?

4 A. Yes.

5 Q. Mr. Singhal, members of the RMON Working
6 Groups did not have to disclose technology to the group
7 that they were working on if they did not want their
8 work to be part of the standard, correct?

9 A. No. It was understood that if you want -- if
10 you want to contribute your stuff, then it cannot be
11 proprietary. So either you don't provide any
12 information, or it becomes public information.

13 MR. SKIERMONT: Ms. Vogtman, can you put
14 up the clip starting at 170?

15 Q. (By Mr. Skiermont) Mr. Singhal, at your
16 deposition where you were under oath, you were asked
17 question at Line 13 -- QUESTION: What if they don't
18 want to make it part of the standard?

19 ANSWER: Then they won't disclose it.

20 QUESTION: They don't have to disclose it?

21 ANSWER: No, they don't have to.

22 Were you asked those questions, and did you
23 give those answers under oath?

24 A. Yes.

25 Q. You personally -- your personal involvement

1 and role in the RMON Working Group ended in 1997,
2 correct?

3 A. But somebody else was representing NetScout
4 after that.

5 MR. SKIERMONT: Your Honor, could I
6 direct you to -- ask your help to have the witness
7 answer --

8 THE COURT: Are you objecting that the
9 witness is nonresponsive?

10 MR. SKIERMONT: I'd move to strike it as
11 nonresponsive.

12 THE COURT: I'll sustain the objection
13 that the answer is nonresponsive.

14 The question, Mr. Singhal, was: When
15 your personal involvement ended, was that 1997?

16 Your answer was: Somebody else took over
17 after I quit.

18 So you didn't really answer the question.

19 You need to answer the question: Did
20 your involvement with the RMON Working Group end in
21 approximately 1997? Did it or did it not?

22 A. Yes.

23 THE COURT: Okay. Try to limit your
24 answers to the questions asked.

25 THE WITNESS: Thank you, sir.

1 THE COURT: Let's proceed, Counsel.

2 MR. SKIERMONT: Thank you, Your Honor.

3 Q. (By Mr. Skiermont) There were other
4 individuals from NetScout who were involved -- who were
5 involved beyond that point, correct?

6 A. Yes.

7 Q. And those individuals included a Mr. Warth,
8 W-a-r-t-h?

9 A. Yes.

10 Q. And it included a Mr. Lester D'Souza?

11 A. Yes.

12 Q. And it included a Mr. Massad, M-a-s-s-a-d,
13 correct?

14 A. Yes.

15 Q. All three of those individuals were NetScout
16 employees on the RMON Working Group after you left in
17 1997, correct?

18 A. Yes.

19 Q. On direct, you testified that NetScout
20 contributed its proprietary technology to the RMON
21 Working Group, correct?

22 A. Yes.

23 Q. And so, Mr. Singhal, if the standard evolved
24 or departed or changed in some way from what it was --
25 from the technology that you had contributed to the

1 Working Group, NetScout would be the biggest loser,
2 right?

3 A. No, because we'll be the net gainer.

4 Q. How is that?

5 A. Because, as I mentioned in my direct, that we
6 were in a small fish in a small pond. And we didn't
7 mind being a small fish in a bigger pond. So the RMON
8 will increase the market size. All boats will rise.
9 And that will include NetScout. So we made all the
10 players in the RMON community make that -- had to make
11 that judgment. Do I want to be part of one way of
12 growing or the other way of growing? And we picked the
13 part, and it seemed to have worked for us.

14 Q. You -- NetScout contributed -- contributed its
15 proprietary technology to the working group, right?

16 A. Yes.

17 Q. And then NetScout used the RMON1 standard as a
18 blueprint for the 6010 Probe, correct?

19 A. Yes.

20 Q. Was the RMON Working Group disbanded when you
21 stopped in 1997?

22 A. No. In fact, it expanded, and a few people
23 left and a few new people joined, but basically
24 continued the RMON2 work.

25 MR. SKIERMONT: Ms. Vogtman, can you put

1 up the clip starting at 188? Actually, take it down. I
2 need to -- I'm going to come back. I'm sorry. Thank
3 you.

4 Q. (By Mr. Skiermont) Mr. Singhal, the
5 Mr. Waldbusser who was the author of some of the
6 documents we saw on direct, do you know him?

7 A. Yes.

8 Q. And, in fact, NetScout has hired
9 Mr. Waldbusser as a technical consultant in this case,
10 correct?

11 A. Yes.

12 Q. And the way that came about is that
13 Mr. Waldbusser contacted NetScout after Packet
14 Intelligence filed this lawsuit, right?

15 A. I'm not sure how it happened.

16 Q. NetScout did not contact Mr. Waldbusser, did
17 he?

18 A. Like I said, I don't know how this came about.

19 Q. And is -- and are you aware that NetScout is
20 compensating Mr. Waldbusser for his technical consulting
21 in this case at \$450 an hour?

22 A. No.

23 Q. You didn't -- you did not know that?

24 A. No, our general counsel handles that.

25 Q. So did you know that when we took his

1 deposition a few months ago, that he had spent by that
2 time 500 hours working on the case?

3 A. No.

4 Q. Did you know that Cisco retained
5 Mr. Waldbusser in -- during the litigation that resulted
6 in Cisco licensing the Packet Intelligence patents?

7 A. I vaguely heard about it, but I was not sure
8 whether he was officially involved with that.

9 Q. Did you ask him?

10 A. No.

11 Q. Mr. Singhal, have you -- you have not read the
12 patents that are at issue -- the three patents that are
13 at issue in this trial, have you?

14 A. I have not read the patents from cover to
15 cover, but I have -- I've read it at a high level and
16 enough to have a good discussion with my Counsel.

17 Q. You just read a summary or an abstract of one
18 of the patents; is that right?

19 A. I don't remember exactly.

20 Q. You don't remember one way or the other?

21 A. Yeah, I don't remember.

22 Q. You may have read the patent -- the three
23 patents in this case, you may not have read them?

24 A. I don't remember how many of them I read. And
25 -- but I know the general idea about -- it's about

1 classification and monitoring of networks.

2 Q. The fact is, you haven't -- you haven't read
3 one of them cover to cover, right?

4 A. Yes.

5 MR. SKIERMONT: I don't have anything
6 further, Your Honor.

7 THE COURT: You pass the witness?

8 MR. SKIERMONT: Pass the witness.

9 THE COURT: Redirect.

10 REDIRECT EXAMINATION

11 BY MR. KRAEUTLER:

12 Q. Mr. Singhal, did the LAN Vista probe include a
13 packet acquisition device coupled to a connection point
14 on the network where it could receive packets passing
15 through the network?

16 A. Yes.

17 Q. Did the RMON1 device, the Model 6010, include
18 a packet acquisition device coupled to a connection
19 point where it could receive packets passing through the
20 network?

21 MR. SKIERMONT: I'm going to object, Your
22 Honor, and ask for a sidebar.

23 THE COURT: Approach the bench.

24 (Bench conference.)

25 MR. SKIERMONT: This is similar to

1 this -- this is expert testimony again. He's -- he's
2 reading -- that was the preamble of one of the claims.
3 And he's -- what I -- what I'm hearing is that he's
4 going to walk Mr. Singhal through -- through each
5 element of the claim and ask him if those words are
6 in -- contained in these NetScout products. That's
7 not -- he's not an expert, it's not a disclosed opinion,
8 and it's improper.

9 MR. KRAEUTLER: It's not the purpose,
10 Your Honor. On cross-examination, it was suggested that
11 the standard did not provide how to acquire packets from
12 a network. That technology hasn't changed since the
13 1980s. That's the purpose of this examination.

14 MR. SKIERMONT: Respectfully, the -- the
15 cross point was not that specific. It was about
16 implementation, not about capturing packets at a --
17 at --

18 THE COURT: All right. At this point,
19 I'm going to overrule the objection. He can certainly
20 answer some basic questions about how things work and
21 how they don't work having been a part of the RMON
22 Working Group. But he is not an expert. He's not going
23 to offer opinion testimony. And if it gets beyond the
24 level I've described, I'll reconsider the same
25 objection.

1 MR. KRAEUTLER: Thank you, Your Honor.

2 MR. SKIERMONT: Thank you, Your Honor.

3 THE COURT: Also, while I have you
4 gentlemen up here, I'm happy to talk with you at the
5 bench, but every time there's an objection we don't need
6 to beat a pathway to the bench or wear a hole in the
7 carpet.

8 MR. KRAEUTLER: Thank you, Judge.

9 THE COURT: You can just stand up and
10 tell me what it is.

11 MR. SKIERMONT: Thank you, Your Honor.

12 THE COURT: Let's proceed.

13 (Bench conference concluded.)

14 THE COURT: Let's proceed.

15 Q. (By Mr. Kraeutler) Mr. Singhal, did the RMON1
16 Model 6010 include a packet acquisition device coupled
17 to a connection point where it could receive packets
18 passing through the network?

19 A. Yes. And, in fact, it was exactly the same as
20 in LAN Vista.

21 Q. And -- and when the Model 6010 was made
22 compliant with RMON2 in the form of the 4.5 software,
23 did that device contain the same packet acquisition
24 device connected to the network?

25 A. Yes.

1 Q. Has that technology changed significantly
2 since the 1980s?

3 A. It has changed in terms of speed, and that's
4 called the LAN acquisition -- LAN speeds have changed
5 from 10 megabits to hundred mega -- hundred gigabits
6 Ethernet, so that thing has evolved, and different
7 hardware is required to do the acquisition, but basic
8 idea has not changed dramatically.

9 MR. KRAEUTLER: Thank you. Pass the
10 witness.

11 MR. SKIERMONT: Nothing further, Your
12 Honor.

13 THE COURT: No additional
14 cross-examination?

15 MR. SKIERMONT: No.

16 THE COURT: All right. Mr. Singhal, you
17 may step down.

18 THE WITNESS: Thank you, Your Honor.

19 THE COURT: Counsel, is there a reason
20 this witness should not be excused?

21 MR. KRAEUTLER: No, Your Honor -- oh, I'm
22 sorry.

23 MR. SKIERMONT: No, Your Honor.

24 THE COURT: Mr. Singhal, you're excused,
25 which means you're welcome to stay with us, you're also

1 free to leave.

2 THE WITNESS: Thank you.

3 THE COURT: Call your next witness,
4 Defendants.

5 MS. SMITH: Your Honor, I believe I
6 failed to ask that Ms. Broughton also be excused. May
7 she be excused?

8 THE COURT: Is there objection?

9 MR. SKIERMONT: No objection, Your Honor.

10 THE COURT: Ms. Broughton is also
11 excused.

12 MS. SMITH: Thank you, Your Honor.

13 NetScout's next witness is Mr. Rajeev
14 Nadkarni.

15 THE COURT: All right. If you'll come
16 forward, sir. Have you previously been sworn?

17 THE WITNESS: No.

18 THE COURT: Please come forward and be
19 sworn.

20 (Witness sworn.)

21 THE COURT: Please come around and have a
22 seat here at the witness stand.

23 All right. Counsel, you may proceed with
24 your direct examination.

25 RAJEEV NADKARNI, DEFENDANTS' WITNESS, SWORN

DIRECT EXAMINATION

BY MR. HSU-HOFFMAN:

Q. Good afternoon, Mr. Nadkarni.

A. Good afternoon.

Q. You are the area vice president of engineering at NetScout?

A. Yes, yeah, I'm the vice president of -- at NetScout right now.

THE COURT: Just a minute.

Let's adjust the microphone. Get it a little closer.

Q. (By Mr. Hsu-Hoffman) Can you tell us where you grew up?

A. I grew up in Mumbai. It used to be Bombay.

Q. And are you a U.S. citizen?

A. Yes, I've been a U.S. citizen since 2001.

Q. And if you would, please give us a brief overview of your educational background?

A. I did my Bachelor's in engineering, electronics and communication engineering in India in Meghalaya University and then I come here and got my Master's in computer science from University of Massachusetts Lowell.

THE REPORTER: I'm sorry?

THE WITNESS: University of Massachusetts

1 in Lowell.

2 Q. (By Mr. Hsu-Hoffman) Did your Master's work
3 focus on any particular area?

4 A. Yes, I did my major in computer networking.

5 Q. And when did you join NetScout?

6 A. I joined NetScout in 1989.

7 Q. So you've been with the company for about 28
8 years?

9 A. That is correct. I've been with NetScout for
10 last 28 years now.

11 Q. Was it called NetScout at the time you joined?

12 A. No, but back then it was called Frontier
13 Software. And then the company changed its name to
14 become NetScout in 1997.

15 Q. When you joined NetScout, then Frontier in
16 '89, what was your position?

17 A. I joined as a software engineer back then.
18 And then, you know, in 1998, I was promoted to become
19 engineering manager.

20 After that in 2001, I was promoted to the
21 director of engineering.

22 And in 2014, I'm now the area vice president.

23 Q. Was -- as a software engineer starting off at
24 NetScout, what were your job responsibilities?

25 A. I used to handle both the hardware and the

1 software. The hardware which goes into the probe. We
2 called it -- we called it as a probe then, and this is
3 the device which actually sits on the network and
4 monitors the network traffic. So I used to -- I used to
5 develop the software as part of the hardware.

6 Q. And when -- I believe you mentioned you were
7 eventually promoted to engineering manager -- manager;
8 is that right?

9 A. That's correct.

10 Q. And how did your job responsibilities change
11 when you were promoted to an engineering manager?

12 A. So as the company was growing, I was promoted
13 to become the manager, and I had a team of about five
14 engineers working with me.

15 Q. And were you working on anything in
16 particular?

17 A. We used to do the same job, which is
18 developing the software for our NetScout probes.

19 Q. How long -- what was the time period in which
20 you were an engineering manager at NetScout?

21 A. From 1998 until 2001, I was engineering
22 manager.

23 Q. Did you work on probes for NetScout throughout
24 the 1990s?

25 A. That's correct, yes.

1 Q. And were you familiar in the 1990s with the
2 probes that NetScout was selling to customers?

3 A. Absolutely.

4 Q. I'd like to introduce -- it's the probe there,
5 DX-0189.

6 MR. HSU-HOFFMAN: If I could --
7 permission to approach and employ the assistance of the
8 --

9 THE COURT: You have a tangible exhibit
10 to hand up to the witness?

11 MR. HSU-HOFFMAN: It's sitting right
12 there, Your Honor.

13 THE COURT: All right.

14 A. Yes, I'm familiar with this.

15 Q. (By Mr. Hsu-Hoffman) Could you explain what
16 it is?

17 A. This was the first of our NetScout probes.
18 It's a model -- Ethernet Model 6010, which actually
19 monitors the Internet traffic.

20 Q. And is this -- this particular device, is this
21 something you found recently?

22 A. That's correct, yes.

23 Q. Where did you locate it?

24 A. We have in NetScout a lot of people,
25 colleagues who are long tenure. And one of my

1 colleagues who works with me, he had it in his queue.

2 Q. Now, is this 6010 Probe, is this a probe that
3 you wrote software for?

4 A. That's correct, yes.

5 Q. Do you know when NetScout started selling the
6 6010 Probe?

7 A. The first -- this particular model was the
8 first one which was sold in 1992.

9 Q. And do you know if NetScout publicly offered
10 this 6010 Probe for sale in 1992?

11 A. Yes, it -- it was featured in trade shows, as
12 well as magazines -- trade magazines, as well as we
13 advertised.

14 Q. What do you mean it was featured at trade
15 shows?

16 A. We used to carry them and showcase them in
17 trade shows, like Interop was one of the big ones.

18 Q. Do you recall --

19 A. Interop -- Interop.

20 Q. And where was Interop usually held?

21 A. Interop in those days was held at Las Vegas.

22 Q. And do you recall the time period in which you
23 were attending Interop shows with the 6010 Probe?

24 A. Yes. I was attending Interop shows in '93,
25 '95, also in '98.

1 Q. So in the early 1990s, were customers -- fair
2 to say that customers were using the 6010 Probe?

3 A. Oh, absolutely.

4 Q. And were customers required to keep their use
5 of 6010 probes confidential?

6 A. Oh, no, actually we wanted them to speak about
7 it so we could sell more.

8 Q. Now, did the 6010 Probe, did that comply with
9 any RMON standards?

10 A. So when we started with this probe, first it
11 complied with the RMON1 standard.

12 Q. And did NetScout ever introduce any RMON2
13 functionality for the 6010 Probe?

14 A. Yes. Actually, in 1997, when the RMON2
15 standard came about, we developed the software for it
16 which in '98 was released as a complement to RMON2, and
17 that's what was -- I was offered on this probe.

18 Q. How did NetScout introduce RMON2 functionality
19 for the 6010 Probe?

20 A. All of our probes are upgradable in the field
21 which is they can actually download the software from
22 our website and put it on to this probe, upgrade them in
23 the field using what's called TFTP. And with that, they
24 can get the new features on the probe.

25 Q. Did NetScout routinely update and release new

1 versions of software for 6010 probes?

2 A. Oh, yes, ever since it was released.

3 Q. Are you familiar with the TrackSessions
4 functionality defined in the RMON2 standard?

5 A. Yes, I am.

6 Q. Do you know if NetScout ever released a
7 version of software for the 6010 Probe that implemented
8 RMON2 TrackSessions functionality?

9 A. Yes. The Release 4.5 which is -- which was
10 done in 1998 has the full RMON2 functionality, which
11 offered in that.

12 THE COURT: Let me -- let me interrupt
13 just a minute. Mr. Nadkarni, you have a pretty good
14 accent. If you could slow down and speak slower, it
15 would help, I think, both the Court and the jury follow
16 and understand your testimony better.

17 THE WITNESS: Sure.

18 THE COURT: Thank you very much.
19 Continue, Counsel.

20 Q. (By Mr. Hsu-Hoffman) Was there a version of
21 software in which RMON2 TrackSessions' functionality was
22 introduced for the 6010 Probe?

23 A. The Release 4.5, which was offered in 1998,
24 has the full feature of RMON2.

25 Q. Do you recall when in 1998 the Software

1 Version 4.5 was released to customers?

2 A. It was in October of 1998.

3 Q. And do you recall the ways in which Software
4 Version 4.5 would have been released to customers?

5 A. We used to offer them by putting it onto our
6 FTP servers and then sending out the mail to all the
7 customers and then they would download it from our FTP
8 site.

9 Q. Would a customer who had bought a 6010 Probe
10 in 1992 upgrade that probe with Software Version 4.5?

11 A. Yes. Every one of our probes was upgradeable
12 in the field, much like, you know -- you have your cell
13 phones which can be updated. Similarly, we used to be
14 able to upgrade them.

15 Q. And once a customer loaded 4.5 onto his or her
16 6010 Probe, would that probe then have the RMON2
17 TrackSessions functionality?

18 A. Yes. Once you upgrade them, they will get the
19 new features.

20 MR. HSU-HOFFMAN: I'd like to introduce
21 DX-59, Mr. Goodin, if we can have that on the screen.

22 Q. (By Mr. Hsu-Hoffman) Mr. Nadkarni, do you
23 recognize this?

24 A. Yes. This is the NetScout Probe Agent
25 Administrator Guide.

1 MR. HSU-HOFFMAN: If we could go to the
2 page ending in 164. If we could blow up the top portion
3 of the right-hand page.

4 Q. (By Mr. Hsu-Hoffman) Now, Mr. Nadkarni, can
5 you tell us if this manual pertains to a particular
6 version of software?

7 A. Yeah. It -- it is Release Version 4.5 which
8 was released in October of 1998.

9 Q. Now, was this a -- this was a version of
10 software that you had worked on?

11 A. That's correct.

12 Q. And did your -- did you or your team make any
13 contributions to the administrator guide that we're
14 seeing on the screen?

15 A. Yes, we did. Because we used to always fill
16 in the information through our documentation team who --
17 who wrote these guides, and they would then, you know,
18 put it into the administrator guide or the user's guide.

19 Q. Does this administrator guide pertain to the
20 6010 Probe?

21 A. It put into all the probes we offered in that
22 time. Between '92 to '98 we had many more probes, not
23 just the 6010, so this administrator guide was common to
24 all the probes.

25 MR. HSU-HOFFMAN: Mr. Goodin, if we could

1 put up the page that ends in 217, please? And so we can
2 see a particular course, and could you highlight the
3 bottom right-hand corner of the last paragraph, please?

4 Q. (By Mr. Hsu-Hoffman) Now, Mr. Nadkarni, are
5 you familiar with this reference to TrackSessions shown
6 here on the screen?

7 A. Yes, I am familiar.

8 Q. Can you explain what it's referring to?

9 A. TrackSessions is one of the features within
10 the RMON2 standard, and this particular thing refers
11 to -- refers to the TrackSessions feature we did in
12 RMON2 that was implemented on the probes.

13 Q. Now, did you or your team contribute to the
14 description of TrackSessions as found in this manual?

15 A. No. The description comes from the RMON2
16 standard actually.

17 Q. The last sentence says: All NetScout probes
18 have TrackSessions capability.

19 A. That is correct. So all our probes which has
20 now the 4.5 feature of the -- of the release will get
21 this track -- TrackSessions feature.

22 MR. HSU-HOFFMAN: Your Honor, we have a
23 physical I'd like to refer to. This would be DX-377.

24 Permission to approach the witness?

25 THE COURT: You may approach the witness.

1 Q. (By Mr. Hsu-Hoffman) Now, Mr. Nadkarni, do
2 you recognize the manual that's just been handed to you?

3 A. Yes, I do.

4 Q. Is that a physical copy of the manual that
5 we've been looking at on the screen?

6 A. That is correct.

7 Q. And this is the -- the manual for the 4.5
8 software?

9 A. That is correct.

10 Q. You're welcome to set that aside for a minute.
11 But we've been talking about 4.5 software. Did you find
12 a copy of the 4.5 software?

13 A. Yes.

14 Q. And can you explain how you located a copy of
15 the 4.5 software?

16 A. Actually, we located the 4.5.3 version which
17 is a batch release on top of 4.5. The reason being, we
18 had in those days what's called -- you know, on our
19 server we used to maintain the software. And that
20 particular server died in the early 2000s. However, in
21 1999, we went to -- from the CCR, the CVS version, or
22 the ClearCase version which is now the version which we
23 use. And this is the source control system which we use
24 now, and that has with the -- with the 4.5.3, and that's
25 the first copy we have.

1 MR. HSU-HOFFMAN: I'd like to introduce
2 DX-310 which is a native production of source code
3 files. Mr. Goodin, if you could pull up the file folder
4 for DX-310.

5 And if we can please click on the folder
6 DX-0310 so we can see what's in there.

7 Q. (By Mr. Hsu-Hoffman) Now, Mr. Nadkarni, do
8 you recognize what's shown on the screen here?

9 A. That's correct. It's actually director
10 structure which has -- which has -- we call it NS agent,
11 this is the code, which is the source code we maintain.

12 Q. And what would we find in the NS agent folder?

13 A. All the directories which contribute towards
14 the source files are the source code which we bring to
15 the software.

16 MR. HSU-HOFFMAN: Mr. Goodin, if you can
17 open NS agent.

18 Q. (By Mr. Hsu-Hoffman) Can you explain what
19 we're seeing on the screen here?

20 A. So this is the directory structure which has
21 all the directories for different components within --
22 which goes on making that release.

23 THE COURT: Let me ask you to slow down
24 again, please, sir.

25 THE WITNESS: Sure.

1 Q. (By Mr. Hsu-Hoffman) Now, were these the
2 source code files that you had found in the ClearCase
3 system?

4 A. Yes.

5 Q. Could you explain what ClearCase is?

6 A. ClearCase is a software repository system,
7 it's basically -- it maintains all the track of all the
8 software which you can check in and check out. So every
9 developer when they, you know, write a code it's
10 checking into what is called the ClearCase.

11 And then if you want to add anything code --
12 more code then we check it. And make this trail of all
13 the things we check in and check out similar to your
14 bank transactions. So if you have your passbook it
15 maintains like your credit entries and debit entries.

16 So similarly in -- in ClearCase, it maintains
17 all the bank versions of all the transactions of the
18 files which are checked in and checked out. So this way
19 we can actually track it to exactly the files which are
20 going towards a release.

21 Q. So you said you found Version 4.5.3 in
22 ClearCase?

23 A. That is correct.

24 Q. And what did Version 4.5.3 look like when you
25 took it out of ClearCase?

1 A. This is the directory structure which actually
2 has all the source files labeled with 4.5.3.

3 Q. You're referring to what's been pulled up here
4 in DX-310?

5 A. That is correct.

6 Q. Now, can you explain does software Version
7 4.5.3 relate to software Version 4.5?

8 A. Yes. It was always our practice that how we
9 made the releases, Version 4, which is a major version,
10 the .5 is a minor version, and all features we had tied
11 towards a major or minor version; however, the third
12 digit was always a batch version, so whenever you say
13 4.5.3, the .3 means it's a batch release.

14 Q. And what was NetScout's practice in the '89 to
15 '99 time frame with respect to batch releases of
16 software?

17 A. For all the releases which are major releases,
18 or even minor releases that go -- go to customer, every
19 other month we used to release batch releases with all
20 the bug fixes that we had found in the field for
21 customers so if the customers report any issues, we used
22 to fix them and send them out as batches.

23 Q. Was it Net -- was it NetScout's practice to
24 use patch versions such as 4.5.3 to introduce any major
25 functional changes in the software?

1 A. No, if there were any major functional
2 changes, then it will change the release version.

3 Q. And I think you've explained it, but just so
4 everyone's clear, could you explain what a patch version
5 of software is?

6 A. Okay. So when we release a 4.5, okay, and
7 then we send it out, let's say a customer -- we have a
8 lot of customers who may say that, okay, this feature is
9 not working as exactly it's supposed to, and they report
10 some issue with it. So we have with them look at it,
11 and we fix the issue. Once we fix the issue, we release
12 what is called a patch release to them. And that's what
13 is the patch version which is a 4.5.1, or 4.5.2, or
14 4.5.3, so .3 will be a third patch release.

15 Q. So a patch fixes a small problem, is that fair
16 to say?

17 A. That is correct, yes.

18 Q. Would Version 4.5.3 change the way
19 TrackSessions had been implemented in 4.5?

20 A. No, it won't change the actual feature or
21 functionality for it. It may fix some issues which may
22 be for TrackSessions or for some other feature that, you
23 know, we had introduced in that particular piece.

24 MR. HSU-HOFFMAN: I'd like to introduce
25 DX-61, Mr. Goodin, if we could have that on the screen,

1 please.

2 Q. (By Mr. Hsu-Hoffman) Now, Mr. Nadkarni, do
3 you recognize what I've marked as DX-61?

4 A. Yes.

5 MR. HSU-HOFFMAN: If you could zoom in on
6 just the top half of the -- of the page.

7 Thank you.

8 Q. (By Mr. Hsu-Hoffman) Could you identify this
9 document for us?

10 A. This is one of the source code files, it's a
11 header file we call it in our code. Basically, all the
12 code is written in C language, and it has source file
13 and a header file.

14 The header file is used for all the data
15 structures or the, you know, variables which are used
16 within the code. So this particular one is for
17 TrackSessions, this header file.

18 Q. And is this referring to RMON2 TrackSessions's
19 functionality?

20 A. Yes, that's correct.

21 Q. So looking at this source code module, does
22 this tell you that Version 4.5.3 of the source code
23 implemented RMON2 TrackSessions's functionality?

24 A. This was introduced originally in 4.5 and
25 4.5.3 actually was just a patch on top of that.

1 Q. Do you know if the source code for Version
2 4.5.3 was ever compiled into a format that could be
3 installed on a 6010 probe?

4 A. Yes, it does.

5 Q. How do you know this?

6 A. Because we actually give a label in ClearCase
7 whenever we release it to the customers so we can
8 backtrack it to issues which are found in the field. So
9 when we give a label, we know this particular version
10 has gone to the customer.

11 Q. And what information is included on the label?

12 A. The label has the -- all the files that are
13 associated with that particular label. And also, it
14 tells me the date on which this release was made.

15 Q. Do you -- the data on which the source code is
16 made, what is -- what is that referring to?

17 A. For this particular file? Or you're talking
18 about for 4.5.3?

19 Q. Let's talk about with respect to this
20 particular version, 4.5.3.

21 A. So 4. -- 4.5.3 release has a label which was
22 dated to be March 15, 1999, which is when this label was
23 put, and that's the time when this release was made.

24 Q. Let's --

25 MR. HSU-HOFFMAN: If we could, Mr.

1 Goodin, could we zoom in on the file name at the top
2 here on DX-61.

3 Q. (By Mr. Hsu-Hoffman) There's a reference to
4 build number, what is that?

5 A. That's the build number which is pertaining --
6 which is labeled to this particular file. So this file
7 also was part of that 4.5.3 release.

8 Q. And does this have a build number of 101?

9 A. That is correct.

10 Q. What, if anything, does build No. 101 tell us?

11 A. So it was our engineering practice all along,
12 ever since -- and we follow it today as well. Well,
13 build numbers from zero to hundred were also engineering
14 briefs, and they -- they were maintained for us to test
15 out the software. Once the software is tested and about
16 to be released we will give them a build number which is
17 101 and above.

18 Q. Was it your -- NetScout's practice to assign
19 build numbers of 100 or higher to software versions that
20 would be released to customers?

21 A. That is correct. It was always the case.

22 Q. That would have been true in the 1998 to '99
23 time frame?

24 A. Yes.

25 Q. You mentioned there was a date that you found

1 in the label. Can you explain what the date was that
2 you found?

3 A. The date refers to the actual release when it
4 was done, and that date is 15th of March 1999.

5 Q. And what does the date of March 15th, 1999
6 signify?

7 A. That's the date on which this particular whole
8 package was built and created for the release to the
9 customers.

10 Q. Now, by creation, what do you mean "by
11 creation"?

12 A. So we compiled this source code into -- it
13 compiles into what is called the machine language that
14 is the image that is put on to these probes. So once we
15 make that image it's downloaded into these probes by the
16 customers. And now when they -- you know, they get that
17 probe, it gets that new version.

18 Q. Now, is the software released as -- to
19 customers as soon as it was created?

20 A. It's within a week that there would be
21 located.

22 Q. Was it NetScout's practice in the 1998 to '99
23 time frame to release software within seven days after
24 its date of creation?

25 A. It's always been the practice for us all

1 throughout, yes.

2 Q. So in accordance with that practice, can you
3 tell us when Software Version 4.5.3, Build 101, would
4 have been released to customers?

5 A. It would have been released by March 22nd,
6 latest.

7 Q. And can you tell us how this software version
8 would have been released on March -- by March 22nd,
9 1999?

10 A. So once the package is created by us, it's
11 actually put on to our -- what's called FTP servers, and
12 FTP servers are like web servers where customers can
13 come and download software and then put it onto the
14 hardware device that -- that's used.

15 Q. Do you recall there being any delays
16 associated with the release of Software Version 4.5.3,
17 Build 101?

18 A. Not that I recall.

19 MR. HSU-HOFFMAN: I pass the witness.

20 THE COURT: All right.

21 Cross-examination.

22 MR. HARTSELL: We have no questions for
23 this witness, Your Honor.

24 THE COURT: All right. Then you may step
25 down, Mr. Nadkarni.

1 THE WITNESS: Thank you.

2 THE COURT: Defendants, call your next
3 witness.

4 MS. SMITH: Your Honor, NetScout calls
5 Mr. Steven Waldbusser.

6 THE COURT: Mr. Waldbusser, have you been
7 sworn, sir?

8 THE WITNESS: Yes, I have, sir.

9 THE COURT: Please come have a seat at
10 the witness stand.

11 Mr. Lyons, you may proceed with your
12 direct when you're ready.

13 MR. LYONS: Thank you, Your Honor.

14 STEVEN WALDBUSSER, DEFENDANTS' WITNESS,

15 PREVIOUSLY SWORN

16 DIRECT EXAMINATION

17 BY MR. LYONS:

18 Q. And good afternoon, Mr. Waldbusser.

19 A. Good afternoon.

20 Q. Can you please introduce yourself to the jury?

21 A. Yes. My name is Steve Waldbusser.

22 Q. And did you prepare anything to assist you in
23 your presentation today?

24 A. Yes, I prepared demonstratives to -- for my
25 presentation today.

1 MR. LYONS: Could we have those on the
2 screen, please?

3 Q. (By Mr. Lyons) Mr. Waldbusser, could you --

4 MR. LYONS: Why don't we advance.

5 Q. (By Mr. Lyons) Could you please describe your
6 education and -- and your professional history for the
7 jury?

8 A. Sure. When I graduated high school, I went to
9 Carnegie-Mellon University in Pittsburgh, Pennsylvania.
10 It was one of the top research and engineering colleges
11 in the United States, in particular in the area of
12 computer science. I majored in computer engineering.
13 This is a blend of computer science and electrical
14 engineering.

15 Q. And did you work at all while you were a
16 student at Carnegie-Mellon?

17 A. Yeah, I had -- I had had a lot of coursework
18 in networking in -- in some of these courses, and I
19 really enjoyed it. And so I started working part-time
20 at a job with network -- with a networking IT group.
21 And ultimately, that -- I guess I was doing a good job,
22 and they offered me a full-time job as a network
23 architect as part of that group.

24 Now, a network architect is somebody who --
25 well, my job was to help design and -- and a very large

1 network which meant choosing equipment from the network
2 companies who sold equipment like Cisco and
3 Hewlett-Packard and Bay Networks. So choosing
4 equipment, designing the network, and -- and then hoping
5 that things would work well, but from time to time, they
6 didn't. Oftentimes, users would have problems with when
7 their files would take too long, if -- if students
8 were -- would submit a paper or -- or look at somebody
9 else's paper, it might take too long or it might fail.

10 And sometimes in cases like that, we had to --
11 we had to solve those problems, potentially
12 re-engineering the whole network.

13 One situation in particular that was
14 noteworthy for me that early in my career was that I
15 realized that we needed something called a probe to
16 examine all the traffic that was traveling through the
17 network and analyze it and figure out what -- what was
18 going on. Without getting into the details, this was
19 going to help solve this problem of why user's problems
20 -- why user's files weren't transferring.

21 And so ultimately, because I couldn't buy --
22 on the market I had to build this thing myself kind of
23 by scratch, and that was --

24 Q. When you said you had to build this thing,
25 what -- what exactly are you -- what are you talking

1 about?

2 A. This was a probe, much like the -- the device
3 you've seen here -- well, that was built by a probe
4 company, but there were no probe companies that I knew
5 of at the time, and so I -- I built something like that
6 myself.

7 Q. And what time period are we talking about?

8 A. That was 1987. It was a time when there
9 really wasn't any Internet. So one of the things we had
10 to do was to hook ourselves up to the Internet which it
11 was kind of an undefined job. There was no such thing.
12 So we had to learn a lot, build a lot ourselves, and
13 it -- well, it was -- it was a lot of work, but it was
14 very exciting.

15 Q. In that period in the late '80s, did you get
16 involved with the development of the Internet?

17 A. Yes. I was -- I -- I got involved with a
18 group called the Internet Engineering Task Force. And
19 you've heard about it before. This was the group that
20 was -- that was creating standards that helped to solve
21 some of the problems that kept the Internet from
22 expanding.

23 And ultimately, when people -- these -- it was
24 academics and networking vendors or companies would get
25 together, and they would work out solutions to problems,

1 and then codify that into a standard that somebody would
2 write a document, which was a standard. It was kind of
3 a blueprint for how computers should communicate, and
4 these things would help solve some of the problems.

5 Q. Now, did you develop any technology that was
6 used in the early Internet days?

7 A. I did. I created -- well, me and my -- my
8 co-authors created something called the simple network
9 management protocol. We -- it was techies that create
10 academics for everything. This was SNMP. And this
11 became one of the foundational protocols that the
12 Internet is built on. It's still in use today. It is
13 responsible for making sure that the Internet is -- is
14 more reliable and performs what people want to do when
15 they want to.

16 Q. Did you receive any recognition for your
17 contributions?

18 A. Yes, I did.

19 THE WITNESS: Could you go to the next
20 slide, please?

21 A. For -- for example, this Network World
22 issue -- this was the premier newspaper for -- for
23 networking professionals, and they named me as one of
24 the top 20 network inventors of all time, partially
25 based on this work that my co-authors and I did on SNMP.

1 Q. (By Mr. Lyons) Now, you indicated you were
2 working with the Internet Engineering Task Force at this
3 time. Did you continue to -- to work with that group?

4 A. Yes, I did. I -- it became a large focus of
5 my job at Carnegie-Mellon to -- to continue with that.
6 And I, over time, wrote many different standards or
7 blueprints alongside the various networking companies
8 who were -- who were working with me on these -- on
9 these new standards.

10 Q. Over what period of your career were you
11 involved in that effort?

12 A. A large portion of my career. I mean, I've --
13 you know, the ones on this screen stands -- stand from
14 '91 through 2006.

15 Q. Now, have you published in your field?

16 A. Yes. Because these -- because these standards
17 were so important, they -- there was a lot of need to
18 get the word out, to educate people on what they were.
19 So I was frequently asked to publish articles and white
20 papers and also to speak at industry conferences
21 about -- about these things. So it was -- it was a very
22 exciting time.

23 Q. Are you an inventor of any patents?

24 A. Yes, I am. I -- just last year, I got a
25 patent for management of a new technology called

1 OpenFlow.

2 Q. And --

3 A. OpenFlow is a -- kind of the -- probably will
4 be the foundation of the Next-Generation Internet. And
5 it's not something that I invented. I invented a way to
6 make -- to help it to work better.

7 Q. Have you received any other recognitions for
8 your contributions to the field?

9 A. I have. Network World named me as one of the
10 -- the power players. They were compiling a list of
11 powerful individuals, people who had contributed a lot
12 to the foundation of the Internet.

13 MR. LYONS: Your Honor, I'd like to
14 offer Mr. Waldbusser as an expert in the field of
15 network monitoring.

16 THE COURT: Is there objection?

17 MR. SKIERMONT: No objection.

18 THE COURT: Without objection, the Court
19 will recognize the witness as an expert in the
20 designated fields.

21 Continue.

22 Q. (By Mr. Lyons) Now, Mr. Waldbusser, how did
23 you get involved in this case?

24 A. Well, I -- I -- I called -- well, first of
25 all, I learned about the case because I had been aware

1 of the -- aware of the -- aware of this case, and I knew
2 I had some expertise in this area.

3 Q. How did you first learn about the existence of
4 this case?

5 A. Be -- because I had been involved in a
6 previous case for -- for -- I had worked for about 10
7 hours for a case for Cisco Systems that was similar --
8 that was based on these patents.

9 Q. And what, if any, analysis did you get an
10 opportunity to do in that earlier work on the patents?

11 A. Very little. It was just about 10 hours, and
12 they had me focused on a different area than -- than
13 what I worked on in this case.

14 Q. Now, what have you been asked to do in -- in
15 this litigation?

16 A. In this litigation, I was asked to do three
17 things. One was to determine the true inventors of
18 these patents. The second was to figure out whether
19 the -- this invention, as of the time that it was filed,
20 was -- was truly first, so one of the requirements for
21 getting a patent. And the third was to -- to determine
22 whether the accused Tektronix products actually infringe
23 this invention.

24 Q. Now, in -- in going about doing what you were
25 asked to do, what did you analyze?

1 A. I analyzed the three patents associated with
2 this case, as well as the communications between the --
3 the inventors and the -- the Patent Office. But that
4 wasn't all, there was quite a lot of information to
5 review.

6 Q. What else did you review?

7 A. I looked at source code for both the -- both
8 the accused products, as well as a product that -- that
9 I had found that seemed to have been invented earlier
10 than -- than the patents that were filed for.

11 I also talked with a lot of -- of the
12 Tektronix and NetScout engineers who were kind of
13 architects for these products. They were the people who
14 -- who knew how it worked inside and could answer
15 questions for me about what the features were and also
16 how things worked. So I talked a lot about it with them
17 and also read -- read their testimony in the case.

18 There was also a lot of manuals and internal
19 documents available to me that also helped to explain
20 features, as well as kind of the internal workings of
21 the products.

22 Q. Did you get any information from the Court
23 about how to interpret the patents?

24 A. Yes, I did. The Court had a number of what
25 are called claim constructions, and these I used as

1 guidance for some of the terms to tell me how to
2 interpret the patents.

3 Q. And did you review any materials from the
4 litigation?

5 A. I did. There was -- there was a lot of -- a
6 lot of material to review, such as the complaint and
7 various -- various back and forth information that was
8 provided between the parties.

9 Q. Have you considered any testimony that was
10 given in this case?

11 A. Yes, a lot of testimony was -- was available
12 to me, and a lot of -- in fact, a lot of technical
13 testimony, so I -- I -- I looked at that.

14 Q. Did you consider the positions that PI has
15 taken in this case in your analysis?

16 A. I did.

17 Q. Can you explain?

18 A. Well, Dr. Almeroth, who you saw yesterday,
19 produced two reports in this case. And I examined both
20 of them carefully to -- to -- so that my analysis could
21 reflect some of the ideas that he had.

22 Q. Based on your review and analysis, did you
23 arrive at any opinions?

24 A. Yes, I did.

25 Q. Can you summarize those for the jury?

1 A. Well, I found that these -- these patents are
2 each invalid for two reasons. One is that the inventors
3 that are listed on the patents are not the true
4 inventors of the technology. And the second is that
5 this -- this invention was already in public use before
6 the -- before the patents were filed for. And those --
7 and that's a -- that's a key way of -- of understanding
8 whether a patent should or shouldn't be valid.

9 Q. Did you reach any opinions about infringement?

10 A. Yes. I examined in quite some detail both the
11 G10 product and the GeoBlade product, the -- the -- and
12 I found that neither of them infringed the -- the
13 patents.

14 Q. Now, can you go through in a little more
15 detail some background on the patents specifically and
16 identify for the jury the patents that you focused on,
17 please?

18 A. Sure.

19 So this is the front page of the '725 patent.
20 And next we have the front page of the '751 patent. And
21 also the '789 patent.

22 And the front page is -- has all of the most
23 important information on it, like the title. This one
24 the -- is the method and apparatus for monitoring
25 traffic on a network. But a key piece of information

1 for my work was to know what the -- what the filing date
2 was. And -- and here I find it on the front page. It's
3 June 30th of 1999.

4 Now, this is key because all of my analysis
5 regarding invalidity has to be accurate on this date.
6 The -- the -- the issue before the Court is whether
7 there were -- whether there was technology before this
8 date available publicly, and that was -- that was my
9 task.

10 MR. LYONS: Could we turn to the patents.

11 Q. (By Mr. Lyons) And if you could just explain
12 to the jury, what were these patents all about?

13 A. Well, yes, I'd -- I'd like to do that. And --
14 and a lot of my testimony today, I'd like to put
15 things -- express things in the way that the inventors
16 did, use their language, use their figures.

17 And what you see in front of the -- or on your
18 screens is one of the figures. It's -- it's Figure 1,
19 and this describes the environment in which a -- one of
20 the -- their invention would live.

21 And it starts with the shaded blue here is a
22 data communications network. This is a combination of
23 wires and switches. The switches -- the switches are
24 interconnected by the -- interconnected by the wires.
25 And the actual arrangement of that isn't important to

1 their invention, but the -- but the role is, is simply
2 that this cloud moves messages from -- from computers --
3 from one computer to another.

4 Now, the computers here are -- are -- we have
5 client shaded in green. These are computers that would
6 have a user attached to them, user in front of them, so
7 it could be a PC that's sitting in front of a user. And
8 they're attached to servers, which are highlighted in
9 purple here, and the network will move information from
10 clients to servers.

11 To show an example, imagine if a user wanted
12 to perform an activity, like to send an email, they
13 would take -- an email message would -- would be
14 transferred from the client computer to the server
15 computer, and a return packet -- a return message would
16 go back to the client. If the activity was to get the
17 time of day to set your clock, a -- the client would
18 send a message to the server, and the answer would be
19 returned. If the activity was to send a chat message,
20 client 4 could send a message to server 2 and get a
21 message and response.

22 Q. Now, Mr. Waldbusser, could you explain what
23 information is really being transferred on the network?
24 What does it look like?

25 A. Well, the information that's being transferred

1 on the network, is -- is -- is -- is a little bit more
2 complex than this. It's divided into packets, and
3 that's a term that we've -- we've -- we've talked about
4 before. And it just -- it's done because the network
5 can't handle any just random size message.

6 So what we do is we chop up an email into
7 multiple constituent packets. It's chopped up and
8 divided into each of those. And I've denoted it as an
9 envelope here, a letter, because this is a great analogy
10 for understanding what a packet is like, because just
11 like an envelope, a packet has a -- an address that it's
12 being sent to, and it has a from address.

13 I'll want to go through each of these in --
14 in -- in turn because they're important.

15 Imagine that we're sending a message to
16 google.com, so the first packet of that message would be
17 sent to a server -- this might be a very, very large
18 machine at Google, and every computer attached to the
19 network has its own address approximate, and like most
20 things computer-related involve some -- some cryptic
21 numbers. And so Internet addresses look like this,
22 253.253.11.1.

23 So that's -- that's enough information to get
24 the letter to the server. But these large servers, as
25 you can imagine, run more than a single application.

1 They run many applications.

2 And the next question the server has is which
3 application should this go to? And so we created
4 something called a port number. And in this case, since
5 it's an email message destined for Gmail, it has a port
6 number that's designated Port 25.

7 Now, Port 25 is a special -- is amongst a
8 special class of port numbers that we call well-known
9 ports. And the thing about well-known ports is that
10 they're all agreed up. Everybody knows that if you look
11 at Port 25, that it's an email message. Everyone
12 similarly knows that if you look at Port 80 it is a
13 web -- a message that's part of a web transaction.

14 So this is an important process for
15 classifying traffic so that you know which application
16 it's -- is in use.

17 Q. Mr. Waldbusser, are -- all the ports fall into
18 one of these well-known port categories?

19 A. No, not all of them. There's another type of
20 arrangement where we have dynamically assigned ports
21 where the port numbers are more random. And this --
22 this port number in my example, 35673 truly means --
23 doesn't mean anything to anybody.

24 In this case, if we're talking about traffic
25 to Skype, Skype is an application of the 10 -- that --

1 that might use random ports. There's no way to look at
2 that and know that it's Skype because it's dynamically
3 assigned. You can't just look it up in the table. And
4 -- and that -- that caused -- causes problems for
5 classification.

6 Q. And this -- in addition to the destination
7 information, what -- what other information is in the
8 packet?

9 A. Well, as I alluded to before, there's a from
10 address, and this is helpful for -- for sending the
11 response packets. The -- the server knows where to send
12 it, and so Bob's computer, we're using in the example
13 here, it has an -- it has a network address. And it has
14 -- it also has a port number that identifies the
15 application on -- on the -- on the client.

16 Q. Is there any other essential information about
17 a packet?

18 A. Yeah. Fifth piece of information called the
19 protocol. And this -- this describes the contents of
20 the envelope. So there's data inside the envelope.
21 Much like a letter, we need to understand what language
22 is, and this is to avoid a computer reading an English
23 letter as if it was a French letter or vice versa. And
24 this -- this tells the computer what to expect when it
25 opens up the envelope.

1 Q. Does this collection of information have a
2 name?

3 A. It does. It has a very geeky computer science
4 name called a 5-Tuple. We -- we -- in computer science,
5 you run across 3-Tuples, 4-Tuples, 5-Tuples. That just
6 means three -- a collection of three things, a
7 collection of four things, a collection of five things.
8 This is a collection of five things. And in computer
9 networking, though, if you say 5-Tuple to a network
10 engineer, they're going to know exactly what you're
11 talking about. They're going to know that you're
12 talking about these five things, the source and
13 destination network address, the source and destination
14 port, and the protocol.

15 Q. And how is this 5-Tuple used?

16 A. Well, it's used to identify all of the packets
17 that are involved in a particular connection, typically
18 involved for one activity. So when I send an email, if
19 it's chopped up into four packets, every one of those
20 four packets are going to have the same information for
21 their 5-Tuple.

22 So just looking at the top line here, this --
23 the 5-Tuple that includes Port 25 is for email, and --
24 and all the packets for sending that email will have the
25 same -- will share the same 5-Tuple.

1 In other words, this 5-Tuple forms a key
2 that's unique and identifies everything that will be
3 sent.

4 The second key down there is -- is for the
5 time of day protocol. And no matter how many packets
6 are sent on that connection, they will all share the
7 5-Tuple.

8 And finally a chat application would -- would
9 have this green key on the bottom.

10 Q. Now, can you explain in more detail exactly
11 how these keys or 5-Tuples would be used in the
12 networking situation?

13 A. Sure. Let's -- let's use an example. And
14 this is going to become familiar because I'm going to
15 use -- I'm going to do a lot of examples like this with
16 the client on the left and the server on the right. The
17 client was Bob's computer. The server is maybe perhaps
18 a large computer at -- at Google.

19 In this case, Bob's computer wants to send a
20 message to the server, and a package is inside an
21 envelope, and then it addresses the envelope. The
22 address is the 5-Tuple or key. And then it sends the
23 message from the client port to the server port.

24 Now, the server is going to do -- in this
25 case, it's going to send the email. Then it's going to

1 send the packet back with that same key.

2 So when I -- and I'm denoting that by showing
3 that the colors of the keys are the same.

4 Q. And is there a term that this flow of packets
5 is referred to as?

6 A. The flow of packets is called a connection, or
7 alternately a connection flow.

8 Q. Now, there was another element in Figure 1
9 that you haven't mentioned yet called the analyzer 108.

10 A. Yeah, this -- this part is very important.
11 This is the actual invention.

12 The analyzer coded in -- in red here is -- is
13 the actual invention that's monitoring the network.
14 Sometimes it's called a monitor, as in the -- the
15 inventor's own words up top here, and also sometimes
16 it's called a probe. Analyzer and monitor and probe
17 really all refer to the same things in -- in the patent
18 and in this technology world that we live in.

19 Q. So could you explain how this probe would
20 operate in a network?

21 A. Sure. So think of the packets that are going
22 back and forth between the client and the server. The
23 probe has a way of connecting to that wire and getting a
24 copy of all the traffic that's -- that's -- that's
25 passing it. And you just saw a packet go to the server,

1 and a copy was captured by the probe and it sits in
2 memory so the probe has a chance to examine it. It can
3 look at things like the 5-Tuple and try to figure out
4 information about this -- about this probe. And one in
5 -- one piece of information is which flow or connection
6 flow this packet is a part of.

7 Q. And what -- and how would a -- a network probe
8 organize the information, typically?

9 A. Well, it's going to put them in a table. It's
10 going -- it's -- it's -- think of something like an
11 Excel spreadsheet where each row means -- has some
12 meaning, but the columns of the spreadsheet tell you the
13 various things about -- perhaps it's a purchase order or
14 -- or a check number. The columns of this table tell
15 you the various attributes of it, and so we keep track
16 of this in -- in tables in the probe.

17 Q. Well, can you just describe the -- how this
18 was done before the -- the patent was filed?

19 A. Before -- yes, yes. Let's go into and
20 describe -- we'll show you an actual example. And
21 referring back to the -- the figure that that we're
22 looking at before.

23 Now, the patent itself -- in its own language,
24 this is the inventors talking. They said that some
25 prior art packet monitors -- in other words, before

1 they -- before their invention, they classify packets
2 into connection flows. I alluded to that before.
3 That's the -- that's a stream of packets between a
4 client and a server that all shares the same key.
5 They say the term "connection flow" is commonly ever
6 used to describe all packets involved with a single
7 connection.

8 Q. And do you agree with -- with those
9 statements?

10 A. I do, I do.

11 Q. Can you explain how that information is
12 gathered by a probe?

13 A. Sure. The -- the patent describes a method.
14 It's saying that the method -- it stores a new
15 flow-entry for the new flow in the flow-entry database.
16 It looks a lot like a spreadsheet you'll see -- you'll
17 see momentarily. And this flow-entry database includes
18 identifying information for future packets to be -- to
19 be identified with this new flow-entry. And the
20 identifying information, they go on at length saying the
21 identifying information are the keys or -- or 5-Tuples
22 of the packet and --

23 Q. So could you show how -- kind of put all this
24 together. How would this work in practice?

25 A. Yeah. Well, what's highlighted here is

1 that -- is that column in this table where the key is
2 stored. So what we're about to do is grab the key from
3 a packet. And the first thing that we're going to do is
4 look for that key in the table. We're going to find --
5 try to find the existing key in the table.

6 Now, that didn't happen because this -- there
7 was no existing flow. So we created a new entry in this
8 table. But now the next step is going to be more
9 interesting, and that's where the second packet with the
10 blue key is matched to the first one. And you'll see
11 that we've kept some statistics in the right-hand column
12 where it shows the two packets have been transmitted on
13 this connection.

14 Now, the other thing that's happened, and
15 that's -- this is very important, is that the
16 application has been classified. One of the members of
17 the key was the port number. Port 25 is known by
18 everybody to mean email. And so that -- that well-known
19 port strategy allowed the -- the probe to figure out
20 that this is an email application. And it noted that in
21 the table because that's really important.

22 Now, any good network has a lot of good things
23 going on at once. If a second connection was created
24 between the client and server, like -- like to get --
25 like to figure out the time of day, we'd address an

1 envelope. And we have a red key because it's a separate
2 connection. The probe looks for the red key. Finding
3 none, it creates a new entry in the table.

4 And a third packet -- a third connection, for
5 the green -- for the green connection, creates another
6 connection. But as more packets are transmitted on
7 these connections, by looking at the key and matching
8 up -- in this case colors, we can see which connection
9 the -- the packet should be associated with.

10 So we've collected two packets for the email
11 connection, two packets for the -- for the time of day
12 application, and three packets for the chat application.
13 We're also keeping track of other statistics, like when
14 was -- what time was the last of these packets received.
15 This -- the chat application was -- the last one was 12
16 seconds after 10:00 a.m.

17 Q. Now, we -- the connections that you've
18 illustrated here, what -- what are they referred to as?

19 A. Each of these are called connections or
20 connection flows. And this is going to be a key concept
21 for understanding the different technologies available.

22 So these connections -- this probe -- what
23 this probe has done is it's watched these three
24 connections actually travel across the wire, and it has
25 created three entries in the table below. These are

1 three separate flow entries.

2 And this all describes the prior art. This is
3 stuff -- stuff that existed before the patents were
4 applied for, and that's something that I believe that
5 everybody in this case agrees. The inventors themselves
6 have said that.

7 Q. Do the patents describe a problem that they're
8 trying to solve?

9 A. They do.

10 Q. And can you describe that, please?

11 A. Well, the problem they -- they coined a term
12 called the "disjointed flow problem." Now, in the
13 industry, we all knew about the problem. We used
14 different words for it. They called it the disjointed
15 flow problem. And I'll use those words because they --
16 they're perfectly good words to describe the problem.

17 Q. Well, can you describe what -- what that
18 problem was?

19 A. Yes. Referring back to our -- to our example,
20 if the client starts an activity by sending a packet
21 from -- from a port in the client to a port in the
22 server, and just like before we do -- we do the
23 operation that we've been describing and the server is
24 going to respond back, just like before, it's correlated
25 together using the red key.

1 But here's -- here's where the problem occurs.
2 What if for some reason the application wanted to use a
3 second connection for something else related to this
4 activity. It could be any reason, it doesn't matter --
5 it doesn't matter why. But what would happen is that
6 the second purple color connection that the packet sent
7 on that don't end up in the same -- in the same row of
8 the table because they're purple. They don't match the
9 red key.

10 Now, a couple of problems occur here. The
11 biggest one is that this application was not -- was not
12 classified correctly. It was sent to a random port.
13 Not Port 25. We don't know how to interpret that. And
14 so it results in accumulated traffic being classified
15 unknown. And this was happening more and more at that
16 time.

17 Q. So how many connections are involved in -- in
18 what you've shown here this time of day example?

19 A. What we've seen is that there were two
20 connections, then real world on -- on the top. And
21 these separate connections were recorded as two
22 connection flows on the bottom. But because these
23 connection flows really relate to the same activity,
24 they are -- they are termed a disjointed flow. And this
25 is the problem that the inventors were trying to solve.

1 Q. And how did the inventors indicate they were
2 going to solve this problem?

3 THE WITNESS: Next slide, please.

4 A. They created something called the
5 conversational flow solution. They coined it -- the
6 term "conversational flow" --

7 THE WITNESS: Next slide, please?

8 A. They said that a conversational flow is the
9 sequence of packets that are exchanged in any direction
10 as a result of inactivity. For instance, the running of
11 an application on a server as requested by a client.
12 And the key -- one key word here to concentrate on is
13 we're talking about an activity. It's -- two things
14 that are related, in real life we need to make sure that
15 they're going to be related in our -- in our packet
16 monitor.

17 Q. (By Mr. Lyons) And what does the patent say
18 about classifying that information?

19 A. They say that it's desirable to be able to
20 identify and classify conversational flows rather than
21 just connection flows. Some conversational flows
22 involve more than one connection, and some involve even
23 more than one exchange of packets.

24 Q. And does the patent describe how you would
25 identify and classify different connections into a

1 conversational flow?

2 A. Yes, it does.

3 Q. And what -- what does it say about that?

4 A. Well, they said that it's desirable to link or
5 join the flows together into one so that what you result
6 in is a single conversational flow rather than a
7 problematic two -- two flows.

8 Q. And what are you allowed to -- what can you
9 accomplish by -- by doing that?

10 A. Well, if they're the same, these two packet
11 exchanges are going to be correctly identified as a
12 conversational flow. Again, this -- these are, again,
13 the words of the inventors. They're trying to link or
14 join these two things together into one thing so that
15 they can be tracked correctly.

16 Q. Mr. Waldbusser, we go back to your graphics,
17 can you explain how this shows, if it does, the problem
18 and the solution?

19 A. Yeah, so the -- the disjointed flow problem,
20 which resulted in two flows, gets -- is solved when we
21 can join them together into a single one.

22 Q. Now, does the patent suggest that this
23 conversational flow idea was a significant part of the
24 patent?

25 A. Yeah, they were clear that it was very

1 significant. They said that what distinguishes this
2 invention from the prior art, in other words, what's --
3 what's unique here over what's already been invented, is
4 that it has the ability to recognize disjointed flows as
5 belonging to the same conversational flow. In other
6 words, to solve the problem that I just described.

7 Q. Does the patent give any examples of this
8 occurring in the real world?

9 A. Yes, it does.

10 Q. What -- what examples?

11 A. Well, it talks about this in terms of the --
12 the RPC protocol.

13 Q. What -- what is RPC?

14 A. Well, RPC stands for remote procedure call.
15 And it's a -- it's a protocol invented by Sun
16 Microsystems, which was -- which is an important company
17 at the time. It doesn't -- Sun Microsystems isn't --
18 isn't around anymore by that name, but this was designed
19 in the '80s, and it was becoming very, very popular in
20 the mid '90s. And it -- the problem was that as it
21 became more popular there was more and more traffic that
22 wasn't classified. And that was because the server was
23 randomly assigning ports using the SunRPC protocol, and
24 there was no way to look them up in the well-known port
25 table.

1 Q. Now, you just mentioned the well-known port
2 table, can you explain, again, what exactly you're
3 talking about?

4 A. Yeah, so the simplest method, and this worked
5 with -- when you weren't doing SunRPC, was to look up
6 one of the ports, and if you found it in this table,
7 you -- if it was 25, for example, you'd know it was
8 email, if it's Port 80 you'd know it's web. Picking
9 another one, if it's 123, you know it's NTP.

10 So it -- that was simple, but if you're going
11 to randomly assign the ports like SunRPC did, then
12 you'd -- then you'd run into trouble.

13 Q. Now, does the -- the patent talk about this
14 RPC protocol?

15 A. It does, it does at some length. It used it
16 as what's called the exemplar protocol, and -- and it
17 spends many pages describing the invention showing how
18 it solved -- solved the SunRPC problem.

19 In the inventor's language, they said
20 something conversational flows involved more than one
21 connection, which is particularly true when using client
22 server protocols such as RPC. When they say this,
23 they're referring to SunR -- the same SunRPC I just
24 described.

25 Q. Do they identify RPC as having this disjointed

1 flow issue?

2 A. They do.

3 THE WITNESS: Next slide, please.

4 A. They say that other protocols that may lead to
5 disjointed flows may include RPC and, again, referring
6 to Sun Microsystems's remote procedure protocol.

7 Q. (By Mr. Lyons) Now, can you illustrate how
8 this becomes a problem using the -- the graphics that
9 you created?

10 A. Yes, yes. So let's perform some of the same
11 type of packet operations we did before but with RPC in
12 this case.

13 So if -- the first thing that has to happen in
14 the SunRPC connection because -- is -- is that we need
15 to find out the name -- the number of the random port
16 that's going to be used. And so the first thing we need
17 to do is to -- is to ask the server what port it's
18 currently using, which random number port it's using.

19 Now, the example I'm going to use here is time
20 of day application. All we simply want to know from the
21 server is what time it is. And so we send a message to
22 the server asking exactly that -- or -- or, sorry,
23 asking for the port number for the time of day port.

24 That is sent in an -- in an envelope to a
25 special port called Port 111. This is the single

1 well-known port in this system. It's the only thing
2 that is -- that is able to be classified in the RPC
3 system.

4 Q. Now, you'd mentioned that the patent discusses
5 RPC. Does it give the details of how this might happen?

6 A. Yeah, it does in -- in a lot of detail, not
7 just the -- it gives details about the RPC solution but
8 also for their -- their solution to the problem.

9 So they say that -- that the RPC request is
10 sent to Port 111, just like in my example here. Port 11
11 (sic) is always associated with SunRPC.

12 This first request specifies a program. And
13 up top in my graphic, I've specified that it's the
14 program we're looking for or application is the time of
15 day application. So that packet is sent. It's
16 classified as a time of day request. The --

17 Q. So what happens at the server after that --
18 that happens?

19 A. The -- the -- the inventors themselves say
20 that once the port mapper processes on this -- RPC
21 server receive the request, the specific mapping is
22 returned in a directed reply to the client. Mapping is
23 another computer sciency word that just means a
24 relationship. Port 111 is -- I'm sorry, some port is
25 related to that time of day application, and it's going

1 to tell us which port.

2 Now, in this example, the port is Port 43951.
3 And by that, I just mean some random number the server
4 has assigned to this. And so that's going to be the
5 answer to this question.

6 The envelope is prepared. The envelope is
7 going to be sending this answer in the -- in the
8 inventor's language. They say this reply contains the
9 specific port number for the specific RPC program.

10 The envelope is then -- the Port 43951 is
11 added to the envelope and now it's ready to be sent.
12 It's sent across. The probe gets a copy of it. It
13 classifies it -- remember, the -- that's part of the
14 same connection so far and, therefore is classified with
15 the red key. But now the --

16 THE WITNESS: Go to the next slide,
17 please.

18 A. Now, the client is going to respond. Now it
19 knows that it wants to send 43951, and it creates and
20 sends that packet. It's a purple key now because it's
21 different. And when that -- when that RPC request is
22 sent and the reply is sent, they don't match the first
23 connection and go into the second connection and are
24 misclassified as unknown.

25 What we really wanted to see here was that

1 this was part of a time of day app.

2 Q. (By Mr. Lyons) So how does this illustrate
3 the problem that the patent is talking about?

4 A. Well, what -- what we saw in the real world
5 were two real-world connections on the top. And the
6 probe interpreted them as two connections on the bottom.
7 It didn't do the extra work of realizing that they're
8 really part of the same activity, joining them together,
9 and -- and presenting them as one single activity, that,
10 in fact, had four packets associated with it. And four
11 packets that were regarding the time of day protocol.

12 Q. So do the patents propose a solution to this
13 problem?

14 A. Yes, they did.

15 Q. What is that?

16 A. That is the conversational flow solution.

17 Q. Well, can you explain how that's described for
18 this particular protocol?

19 A. Yeah. Well, the linchpin of their invention
20 is the technique of remembering the port number. In my
21 previous example it's the 43951. If they were to
22 realize -- if the probe was to realize that 43951 was --
23 was the answer to the first question, then it would have
24 the missing ingredient to capture and classify all the
25 packets that happened after that to Port -- to Port

1 43951.

2 Q. And is there an example in the patent that
3 shows it putting this into practice?

4 A. There is. It's -- it's called Figure 2, and
5 this Figure 2 is an example of the -- of the invention.

6 THE WITNESS: And if you can go to the
7 next slide.

8 Q. (By Mr. Lyons) How does the patent describe
9 the example, which protocol?

10 A. Oh, with -- with respect to SunRPC, it spends
11 quite a lot of time talking about the patent in terms of
12 SunRPC.

13 Q. So if we refer to Figure 2, can you explain
14 what this shows?

15 A. Yes. Now, first of all, Mr. Maixner yesterday
16 described this figure as impenetrable, and I agree, but
17 I think we can simplify it. It's going to look a lot --
18 you know, in a minute, I'm going to hopefully make it
19 look a lot like the other figures.

20 First of all, in -- in green, I've colored the
21 client just like before. We have client on the left and
22 server on the right. The server is in purple. The
23 probe in this case is represented in the middle in red.
24 And what's left is, well, it's still complicated, but
25 what it really is, is four packets. One -- a packet

1 exchange on the top going to and from the server, and a
2 second packet exchange on the bottom going to and from
3 the server.

4 Q. And describe this packet exchange, if you
5 could, please.

6 A. Sure. Again, I'm going to keep referring back
7 to the patent language because the -- the inventors were
8 quite specific about showing this invention work with
9 the SunRPC protocol.

10 So first -- a first packet is -- is sent from
11 the client to the server. It's sent to Port 111 because
12 SunRPC packets are sent to Port 111.

13 And the client -- or sorry, the patent
14 language shows how these -- the first boxes on the -- on
15 the left, and they're -- they're going to color in red,
16 they are the components of the 5-Tuple. That's the
17 source and destination network addresses.

18 And the fourth and fifth field are the source
19 and destination ports. So the -- the inventors are
20 describing exactly the same SunRPC problem.

21 Q. And what have you described that 5-Tuple as?

22 A. Well, the 5-Tuple is the key -- in this case,
23 a red key that is -- that describes this. And the
24 patent tells us to store the key in the probe as key --

25 Q. Can you explain how -- explain how -- how that

1 works?

2 A. Well, the -- the packet is received by the
3 probe. It's examined. The fields are pulled apart.
4 And those particular 5-Tuple fields are placed in the --
5 in the table. And there's -- there's -- and the -- the
6 text talks about the RPC by look-up request to server 2,
7 it's a well known format, and it's sent to Port 111.
8 You can see this cross-hatched area that's highlighted
9 in red is the way the inventors identified the Port 111,
10 this first destination port.

11 Q. And what's the significance of Port 111 again?

12 A. That is the single well-known port for SunRPC.
13 It's the single place you go to ask questions about
14 where to find other port assignments.

15 Q. So this request packet sent to the -- and what
16 -- what program is associated with Port 111?

17 A. It's called port mapper, again, mapping ports
18 to numbers.

19 Q. And what information does the port mapper
20 request include?

21 A. Well, you also have to tell it which
22 application you're asking about. So there's a specific
23 field in there. The patent says that this field -- they
24 called it sla -- is the service requested by the client
25 from the server.

1 So that -- that continues on to the server.
2 Now the server is ready to answer the question by
3 sending a packet back to the client. The patent
4 describes what to do with this.

5 First -- the first fields are the Tuple, and
6 they contain the red key. And that is matched up with
7 the -- with the red key already stored there.

8 Q. So what other information is in the response
9 from the port mapper program?

10 A. Well, the -- in the response is the response
11 port that -- that -- that refers to the time of day
12 application on the server. And this has vertical bars
13 in it. That's how the inventors described it. That --
14 that port number is now the -- that key information we
15 want to remember is part of this technique.

16 THE WITNESS: Next slide, please.

17 A. So what we're doing here is we are creating a
18 new key that has the same information as that red key,
19 except for swapping in this -- that vertical bar field
20 that has the Port 43951.

21 Q. (By Mr. Lyons) You quoted earlier some
22 language in the patent that refers to remembering the
23 port.

24 A. Oh, yes.

25 Q. Can you explain what, if any, significance

1 that has to the figure we're looking at?

2 A. So that KEY-2 there, that's -- that's where
3 you remember the port. That swapping in of the vertical
4 bar piece was the answer for the port assignment.
5 That's the act of remembering the port. And that's what
6 makes this all work because now this KEY-2 is going to
7 be able to recognize those other packets.

8 Q. So what's the difference between these two
9 keys?

10 A. They're the same, except for that port number.
11 We know that the second -- the second connection has all
12 the same information except for the ports have been
13 swapped with the -- with this new time of day port.

14 Q. And what is this KEY-2 or what's the second
15 key for?

16 A. It's for recognizing every single packet
17 that's about to be transferred between these two. The
18 -- the inventors say it's now used to recognize packets
19 that are in any way associated with the application.

20 Q. And what application are they talking about
21 there?

22 A. Time of day.

23 Q. And that's in your example?

24 A. Yes, that is -- that's copied in the -- the
25 field A2. So at this point, by the way, the KEY-1 isn't

1 used anymore. KEY-1 was only used for that first packet
2 exchange.

3 Q. So what does the client do when it gets this
4 response back with the port number?

5 A. Well, the client now knows the information it
6 needs to complete the transaction. It's -- it's going
7 to send a packet to Port 43951 finally asking its
8 question. So it creates a packet with the new key, with
9 43951 in the -- in the Tuple, and it sends it to the
10 server.

11 Now, because that new key is the purple key
12 and we're already -- we've already remembered the port
13 for the -- for these other packets, we're already set up
14 to recognize this thing, and along with any other
15 packets that happen in -- in the -- in the rest of
16 the -- the connection.

17 So what we've done is we've remembered the
18 port from the original transaction and put it in the --
19 in as a separate key, and that enables us to correctly
20 correlate these flows into a conversational flow.

21 Q. You said that's described in the -- in the
22 patent?

23 A. Yes, very simply the -- the inventors
24 described it as remembering the port number.

25 Q. Now, when we -- why don't we go back to the

1 graphics we used before. Can you just illustrate how
2 this -- this process would -- would work?

3 A. Sure. So now in -- with using more familiar
4 graphics, we're going to walk through the problem and
5 the solution applied to RPC.

6 So, again, we're sending the RPC requests for
7 time of day to server 2, we're sending a Port 111
8 because the first question is what port should we
9 continue on.

10 The envelope is addressed with the right key,
11 and it's -- it's -- creates a flow-entry marked with a
12 red key in the table.

13 Now, the server can send the response back.
14 It places 43951 in the -- in the envelope. It now sends
15 this response back. The probe gets a copy of it.

16 Now, it's going to do two things here. First
17 of all, the -- the -- the envelope in which the
18 information was described is -- does have a red key. So
19 we're going to -- it's going to end up going into that
20 first entry. But since it contains the purple port, it
21 also tells us enough information to create the purple
22 key. So let's do that.

23 The -- the patent says to build and store a
24 new flow signature, and then there we do it there.
25 That's the purple key being added to the -- the first

1 flow-entry.

2 What have we done? We've just remembered the
3 port number. We've stored that port number in the
4 purple key, and it's associated with the first
5 connection. So now all the packets that happen after
6 this can be associated into the same conversation.

7 In the language of the inventors, KEY-2 may
8 now be used to recognize packets that are in any way
9 associated with the application A2. In other words,
10 time of day.

11 So when Bob's computer sends a time of day
12 request on the new -- on the new port numbers, instead
13 of going to a separate flow-entry, they are correctly
14 correlated to this first one. And the statistics are
15 correct. This is three packets that's classified as
16 time of day because of the -- remember the port
17 technique.

18 Q. Now, how many connections are involved in this
19 example?

20 A. Well, in this case, with the solution, we had
21 two connections in the real world that were associated
22 with that one activity, but because we've solved the
23 problem, we've reduced them down to a single
24 conversational flow that has all four packets of those
25 two connections related together.

1 Q. Now, if you could just compare this to the
2 problems, disjointed flow problem?

3 A. Yes. On the top of this slide we're sort of
4 working back a little bit in time showing if the
5 solution looks like two flow-entries that are unrelated
6 with unknown packets, that's a characteristic of the
7 unknown flow problem. But if the solution involves
8 joining them together into one entry that correctly
9 characterizes everything, that's -- that's a
10 characteristic of the conversational flow solution.

11 Q. And can you explain again whether the patent
12 identifies this as a significant aspect of the
13 invention?

14 A. Yes, it -- it identifies it as the
15 distinguishing aspect. What distinguishes this
16 invention from prior art network monitors is it has the
17 ability to recognize this disjointed flows as belonging
18 to the same conversational flow. This was the key --
19 sometimes we call it the point of novelty, the -- the
20 special thing that makes this invention special.

21 Q. Now, when you started your testimony, you
22 indicated you were investigating who the true inventors
23 of the patent were?

24 A. Yes.

25 Q. Did -- did you consider the question of who

1 invented this -- this idea of solving the disjointed
2 flow problem with conversational flow?

3 A. I did.

4 Q. And can you explain what you concluded?

5 A. Well, I concluded that this invention shown
6 here on the -- by its filing date on this timeline
7 was -- was not invented at that time, that it had been
8 invented earlier. This technique of remembering the
9 port number had already been known and it was already
10 been described in public in 1996 as something called
11 RMON2 TrackSessions.

12 Q. Now, you're referring to -- let's refer to
13 Defendants' Exhibit 58, please.

14 And can you identify what this document is?

15 A. This is a document called the Remote Network
16 Monitoring MIB Protocol Identifiers. That's a mouthful.
17 I like to call it the TrackSessions document. It was
18 published on November 25th, 1996. And -- and I've been
19 calling it the TrackSessions's document because inside
20 of it, it described the -- the TrackSessions's
21 technique.

22 Q. Why don't we refer to page ending in 158.

23 Could you explain what we're looking at on
24 this page?

25 A. Yes, this is a description of the

1 TrackSessions technique, which says that: It correct --
2 it correctly attributes all packet was a protocol which
3 starts sessions on well-known ports and then transfers
4 them to dynamically assigned ports.

5 Q. What -- what does that mean?

6 A. Well, it means that it has -- links together,
7 join together connections starting on well-known ports
8 with second connections that -- that are on dynamically
9 assigned ports.

10 Q. Does it describe doing that in the context of
11 this -- this RPC protocol that we've been discussing?

12 A. Yes, it does.

13 Q. Can you explain?

14 A. So further in the document, there is a section
15 that -- that is dedicated to SunRPC and dedicated to
16 showing how this applies to SunRPC.

17 Q. And what does it say about SunRPC?

18 A. Well, it says that -- that it learns the port
19 mapping of programs, that TrackSessions is used to learn
20 the port mapping of programs. Again, it's remembering
21 the port.

22 Q. Well, does the document describe how to do
23 this?

24 A. It does.

25 Q. Can you show the jury that, please?

1 A. So this is -- on the next page of the
2 document, in the same section for SunRPC, what's
3 highlighted here is -- is the RMON group's text which
4 says remembering the port assignments. This is -- this
5 is exactly the same thing as -- as the technique that I
6 just described from the patent.

7 Q. And what does this portion of the standard say
8 about how you would implement TrackSessions?

9 A. Well, the first part is instructions for the
10 method for -- that you follow for decoding the first
11 request and response, and -- and then --

12 Q. What program is involved in that initial
13 response?

14 A. SunRPC. And it talks about RPC port mapper
15 requests.

16 Q. And once it decodes that first port mapper
17 request, what happens next?

18 A. Well, then the next slide talks about what to
19 do with the -- with the information that's been
20 remembered. It says that -- well, I'm going to say it a
21 little bit out of order here, but because you've
22 remembered the port assignments, any subsequent packets
23 must be decoded and correctly identified in each RPC
24 function call. And that's showing -- it's telling the
25 implementer how to do the second step of the method.

1 Q. Using the graphics you've -- you've created or
2 we just walked through how the patent dealt with this
3 SunRPC, can you now show us how the TrackSessions
4 standard describes dealing with the exact same protocol?

5 A. Sure. Sure. Again, back to this same figure,
6 so if -- if Bob's computer wants to send a request for
7 time of day, first, it needs to get the port number.
8 And it's going to ask for it on Port 111 which involves
9 a first connection and this first connection involves a
10 well-known port.

11 Now, in this case, we're talking about an RMON
12 probe solving the problem.

13 Q. Now, why did you choose an RMON probe to
14 illustrate this point?

15 A. Well, because TrackSessions is a part of the
16 RMON solution -- the RMON2 solution.

17 Q. So what would -- what would happen next in
18 your example?

19 A. So the packet is addressed and the client
20 given -- given a key because the -- the packet will have
21 all the fields filled in. And we in the RMON group
22 wrote the first packet of many SunRPC transactions is
23 sent by the -- sent to the port mapper program and,
24 therefore, decoded statically by monitoring RPC port map
25 requests.

1 So the packet is sent and decoded just as --
2 like I just described, and the red key is created, which
3 is the first step.

4 So now -- now we're going to go through the
5 second step, and this should be familiar by now, but
6 it's -- the response is going to tell the client that
7 it's going to Port 43951, and that we're going to place
8 that in the envelope. And when we send that and the
9 RMON probe receives it, there's two -- there's two
10 pieces of information in that envelope.

11 One is the red key that's going to be used to
12 associate with the connection that's already in the
13 table.

14 And the second is that Port 43951. That's the
15 piece of information we're going to remember by creating
16 the second key.

17 The description. Now we're talking about from
18 the RMON TrackSessions document, it says: We need to
19 learn the port mapping in the program. The probe can
20 and should monitor port mapper activity to correctly
21 track SunRPC transactions. Any -- then any subsequent
22 packets must be decoded and correctly identified by
23 remembering the port assignments.

24 So with remembering port assignments in mind,
25 the probe does -- can -- can -- can now do this

1 operation. Creates this new purple key based on the
2 information in that packet. It correctly counts the
3 second packet of the first transaction, but now Bob's
4 computer now knowing the -- what port number to use, it
5 can send the real time of day request. It sends it on a
6 second connection, which is a dynamic connection, and
7 because it -- we already have that purple key set up,
8 packets 3 and 4 are correctly identified.

9 Q. So how many connections do we have in this
10 TrackSessions example?

11 A. Well, so even though two connections went over
12 the wire, in the probe, we were able to record it as one
13 single joined conversation that had all the
14 characteristics we were looking for, all the packets
15 were correctly characterized.

16 Q. Now, how does what you just described relate
17 to what's, you know, the TrackSessions' purpose is?

18 A. The TrackSessions was described as correctly
19 attributing all packets of a particular protocol which
20 starts on a well-known port and then transfers to
21 dynamically assigned ports. That's exactly what we've
22 seen here and done here.

23 Q. So that first underlined port where it talks
24 about packets of a protocol which starts session on
25 well-known ports, where is that?

1 A. That's the top connection. That's the --
2 that's where it started the session on the well-known
3 port. And then it transferred it to the second
4 connection on the dynamically assigned port.

5 Q. And if you use TrackSessions, what are you
6 able to do?

7 A. You're able to correctly attribute all these
8 packets to -- to the same conversation.

9 Q. Now, are there any similarities between this
10 TrackSessions described by the RMON group and the
11 asserted patents?

12 A. Yeah, there's -- there's a lot of
13 similarities. And what I have here is -- and this and
14 like a few other pages. On the left is the
15 TrackSessions document from 1996. And on the right
16 is -- will be some citations from the -- the patents in
17 this case.

18 So first of all, we -- in -- in the RMON
19 group, we call this technique TrackSessions. And in the
20 patents, there's -- there are a few references to --
21 to -- that they've used called session tracking or
22 tracking sessions.

23 Other similarities are that it's applied to
24 the same -- to the same protocol -- to the same SunRPC
25 protocol that was causing trouble, and that it was

1 regarding packets being sent to port mapper, which is an
2 important part of SunRPC. But even when you get down to
3 the technique, there's a lot of -- there's a lot of
4 similarities. The SunRP -- sorry, the TrackSessions
5 document talks about decoding the first packet of many
6 SunRPC transactions. And the -- and the language on the
7 right talks about decoding the SunRPC packet. It talks
8 about initial requests from the client.

9 Actually up at the top, tracking sessions
10 requires an initial connection to a predefined socket or
11 port number. This is very similar ways of describing
12 the same solution to the problem.

13 The RMON group said that any subsequent
14 packets must be decoded and correctly identified by
15 remembering the port assignments. And you can find a
16 few similarities in -- on the right. For instance, that
17 signature now may be used to identify packets associated
18 with the server.

19 But the key part is that this remembering the
20 port number or remembering the port assignments, the
21 linchpin part of this, that's -- they're really
22 describing the same thing in -- in very -- very similar
23 language.

24 Q. So who came up with this idea of combining
25 connection flows into a conversation using this

1 TrackSessions?

2 A. Well, this was the -- this was something that
3 was created by the RMON Working Group, which was a -- a
4 group of people who created a standard. A standard is a
5 blueprint for how to communicate.

6 But this -- this TrackSessions document, in
7 fact, lists three important people. These authors of
8 the standard are Andy Bierman, who was at Cisco Systems
9 until 2004; Chris Bucci of Network General, and Robin
10 Iddon of 3Com.

11 Q. Now, in this document, in addition to the
12 authors, does it indicate who -- who else was a
13 significant contributor?

14 A. Yeah. These guys wanted to acknowledge the
15 work of others involved in the process, so they had an
16 acknowledgement section at the end. And first thing
17 they did is they acknowledged the entire working group.

18 You know, a lot of people got together and sat
19 around the table and spent -- spent time away from their
20 families to -- to create this. So we wanted to -- to
21 acknowledge everybody about -- he, in particular, wanted
22 to acknowledge three people who had contributed a lot.
23 Anil Singhal, who you've seen testify here earlier;
24 Jeanne Haney of Bay Networks; and Dan Hansen of Network
25 General.

1 Q. I want to go back and take a look at the face
2 of one of the patents that lists the names of the
3 inventors on the patents. Were any of the gentlemen who
4 are listed here, were they recognized in connection with
5 the TrackSessions standards?

6 A. No.

7 Q. And what -- what is the significance of that,
8 if any, in your opinion?

9 A. None of them were -- had a significant impact
10 or a significant contribution to the development of
11 TrackSessions.

12 Q. Well, let's -- let's go back, and can you ?
13 explain for the jury, you know, how -- how did this
14 group come together to develop this TrackSessions's
15 idea?

16 A. Yeah. Well, TrackSessions was invented in a
17 group called the Internet Engineering Task Force, and
18 this is where I -- I had -- I had gotten involved early
19 in my career and created that SNMP, simple network
20 management protocol, that I was -- I was well-regarded
21 for.

22 And, in fact, I created a lot of protocols
23 there, but the -- the IETF was -- was responsible for
24 doing work like that. It was a -- it was a group of
25 academics and engineers from networking companies who

1 would get together and -- and solve problems,
2 essentially, that were keeping the Internet from
3 growing. I mean, we were kind of -- we were all kind of
4 zealots about -- about the Internet and -- and helping
5 it grow. And the time here was 19 -- well, the that I
6 joined was '87, and so I saw it grow from its formative
7 years. But what was true throughout was that it was
8 a -- it -- it fostered a collaborative environment
9 between everybody, and it was really -- it was really a
10 great thing to see over the years.

11 Q. How did the IETF do its work, how did it
12 organize itself?

13 A. Well, we -- we -- we separated into working
14 groups. Each working group was assigned a particular
15 topic. The RMON Working Group was one of those topics.
16 This was a group of people that were interested in
17 solving -- solving the problem of probes or how to -- or
18 creating probes so that the probes could -- could solve
19 problems.

20 Q. And how did the -- was there a group formed
21 relating to remote monitor?

22 A. Yeah, there was. It was -- it was called the
23 RMON Group, and --

24 THE WITNESS: Next slide, please.

25 Q. (By Mr. Lyons) But what is -- so what does

1 RMON stand for? Can you remind the jury about that?

2 A. Yeah, it's -- it's not the best acronym in the
3 world, but it stands for remote network monitoring,
4 RMON, we prefer to call it. And we -- we were writing
5 problems that created -- or creating standards that were
6 blueprints for solving problems with RMON, making better
7 and better RMON probes that could communicate together.

8 Q. Well, what was the -- the goal for this RMON
9 Working Group?

10 A. Well, we wanted to create standards so that
11 probes could communicate together, even if they were
12 from different companies, the -- the -- the founding
13 members were companies like NetScout and HP, and -- and
14 Axon was another company. And they -- they all wanted
15 to make the market bigger. There was no standard.
16 There were a couple of probe companies at the time, but
17 it was a really small market. People sensed that they
18 lot of people wanted to buy them if there was a standard
19 so we got together to create that first standard.

20 Q. What was your role in this group?

21 A. I was the author of many of the standards that
22 came out of that group.

23 Q. When did you become involved with the group?

24 A. I was in the founding meeting in 1990, and
25 became very involved -- became part of my job to -- to

1 go to the meetings and work with these people.

2 And I remember the time fondly because it was
3 a -- it was a -- it was a great -- it was a great
4 problem to solve, and I was working with some great
5 people to help solve it. It was a very collaborative
6 environment where we'd -- we'd sit around a meeting
7 table and people contribute solutions to problems, maybe
8 it's something they had developed together, but they all
9 got -- they got it about this collaboration thing and
10 wanted to work together, and that's what we did.

11 Q. Well, let's put this on your -- your timeline.
12 You got the patent filed in June 30, 1999. When -- when
13 was RMON founded?

14 A. Well, originally founded in 1990.

15 Q. And who was involved back then?

16 A. Well, a number of people. Myself and Anil
17 Singhal were -- were among the -- among the founding
18 members.

19 Q. I'd like to you take a look at DX-83. Can you
20 explain what this document is?

21 A. Yeah, this is the RMON MIB.

22 Q. What's -- what's that mean?

23 A. That is a standard for allowing probes to
24 communicate with each other, and it was the first one we
25 created.

1 Q. Does this standard have a -- a name by which
2 it's commonly referred?

3 A. We -- we call it RMON for short. Just if
4 you -- if you wanted to say that a probe used RMON,
5 you'd just call it an RMON probe, and we'd call it the
6 standard RMON.

7 Q. And who was the author of this document?

8 A. I was the author of the document.

9 Q. And when did you create it?

10 A. November of 1991.

11 Q. Is this -- are these all your ideas?

12 A. No, no. The --

13 Q. Where -- where did the content of this
14 document come from?

15 A. Well, I contributed some ideas, but the --
16 many of the members would contribute some idea they had
17 for -- for some feature or some solution to a problem.
18 And they'd -- they'd present that to the group, and
19 maybe it'd be tweaked or maybe people would say, hey,
20 that's a great way, but the -- the result of the
21 collaboration was that we knew we were done when we had
22 a general consensus that we had -- we had gotten to a --
23 to a solution.

24 Q. Now --

25 THE COURT: Counsel, approach the bench,

1 please.

2 (Bench conference.)

3 MR. LYONS: Yes, Your Honor?

4 THE COURT: Mr. Lyons, he's been on the
5 witness stand two hours. Do you have any idea how much
6 longer your direct is going to go?

7 MR. LYONS: We were timing out at three
8 hours. That's my goal. Total.

9 THE COURT: If you've got another hour to
10 go then I'm going to take a recess at this time.

11 MR. LYONS: Okay.

12 THE COURT: If you're a few minutes away
13 from finishing --

14 MR. LYONS: No, I'm not. I'm definitely
15 not.

16 THE COURT: Okay. We'll take a recess
17 and come back.

18 MR. LYONS: Okay. Thank you.

19 (Bench conference concluded.)

20 THE COURT: Ladies and gentlemen, we're
21 going to take a short recess at this time. You may
22 leave your notebooks closed and in your chairs. Don't
23 discuss the case. We'll continue with the Defendants'
24 direct examination after this recess.

25 The jury's excused for recess.

1 COURT SECURITY OFFICER: Rise for the
2 jury.

3 (Jury out.)

4 THE COURT: The Court stands in recess.

5 (Recess.)

6 (Jury out.)

7 COURT SECURITY OFFICER: All rise.

8 THE COURT: Be seated, please.

9 MR. LYONS: Your Honor, just one minute,
10 if I may?

11 THE COURT: Go ahead.

12 MR. LYONS: Mr. Nadkarni has not yet been
13 dismissed, and we'd ask if there'd be any objection to
14 him doing so?

15 THE COURT: Is there any objection?

16 MR. SKIERMONT: No objection.

17 THE COURT: Mr. Nadkarni is excused.
18 He's free to leave, he's free to stay.

19 MR. LYONS: I'd also like -- there's one
20 issue I'd like to -- to raise about the scope of my
21 examination, and -- and an issue of where we believe
22 that the door has been opened. But if you want me to
23 approach now and discuss that?

24 THE COURT: Well, the jury's outside the
25 courtroom, so just go ahead and tell me what your

1 position is.

2 MR. LYONS: Yeah, so we believe that
3 in -- in the course of cross-examination, the door has
4 been opened as to what the RMON Working Group knew about
5 these patents. The suggestion was that they -- they
6 knew all about Mr. Dietz's patents and didn't raise any
7 concerns about them until now. And the -- the facts are
8 that he did not disclose them to the group and that
9 people in the group relied upon those disclosures, and
10 they were hidden from the group. And that's one of the
11 reasons why there weren't objections.

12 And Counsel for PI very forcefully argued
13 on cross that that suggested that there was a belief in
14 the industry that these patents may not have
15 transgressed this public standard.

16 THE COURT: All right. What's the
17 Plaintiff's response?

18 MR. SKIERMONT: What -- what
19 cross-examination are you referring to?

20 MR. LYONS: Mr. Davis' cross-examination
21 of Mr. Kenedi. He went down the list of companies, that
22 this company complained, that the RMON Working Group
23 complained. Went down -- he had a whole list on -- on
24 the board. And he indicated all these people didn't
25 raise any concerns about whether this patent had any

1 implications for the standard when -- when, as
2 Mr. Waldbusser could explain, as he was there, you know,
3 there was a disclosure obligation, which he didn't meet.
4 That's why these issues didn't come up sooner.

5 MR. SKIERMONT: Well, I think the cross
6 point was that until the lawsuit -- I mean, the patents
7 were publicly -- the cross was about patents that --

8 THE COURT: Are you gentlemen having a
9 conversation, or do you want to direct your comments to
10 me, gentlemen?

11 MR. SKIERMONT: I want to direct my
12 comments to you, Your Honor.

13 THE COURT: Go to the podium, please.

14 MR. SKIERMONT: Yes, sir.

15 The cross-examination was about how no
16 one has raised an issue with these patents until the --
17 the NetScout lawsuit was filed which covers years and
18 years where they were published, publicly available
19 documents. And so I don't think the cross-examination
20 opened the door to a suggestion that we've suggested
21 that the working group knew all about them at the time
22 they were disclosed.

23 THE COURT: I -- I remember the
24 demonstrative, Mr. Lyons. You don't need to show it to
25 me.

1 I wondered throughout that entire series
2 of questions by Mr. Davis why the Defendants sat on
3 their seats and did not stand up and object that every
4 one of those questions called for the witness to
5 speculate about the state of mind of third parties that
6 they had no knowledge of.

7 And the answers repetitively were not no,
8 we didn't know about it; the answers were, I don't know.
9 Because the questions all asked the witness to answer
10 what each of these companies was thinking. And you all
11 never objected to the purely speculative nature of the
12 question. You just let Mr. Davis go through company A
13 to Z just about. But the witness never said absolutely
14 they knew or they didn't know. The witness said the
15 witness didn't know because the witness had no way of
16 knowing the mental state or the mindset of the companies
17 that were identified in the questions.

18 Long story short, I don't find that the
19 door has been opened.

20 MR. LYONS: Thank you.

21 THE COURT: All right. Anything else we
22 need to do before we bring the jury back in?

23 MR. LYONS: No, Your Honor.

24 THE COURT: Let's bring the jury back in.

25 COURT SECURITY OFFICER: Rise for the

1 jury.

2 THE COURT: Oh, before we bring the jury
3 back in, I need to remind counsel the Court communicated
4 with you by email before 9:00 o'clock this morning
5 directing updated versions of the charge and verdict
6 form be submitted by 5:00 o'clock. We're not at 5:00
7 o'clock, but we're close to it. I assume you have had
8 people working behind the scenes on it during the day
9 and it will be forthcoming.

10 I see heads nodding up and down, that's
11 what I need to know. Okay. Thank you.

12 Let's bring the jury in.

13 (Jury in.)

14 THE COURT: Welcome back, ladies and
15 gentlemen. Please have a seat.

16 We'll continue with the Defendants'
17 direct examination of Mr. Waldbusser.

18 Go ahead, Mr. Lyons.

19 MR. LYONS: Thank you, Your Honor.

20 Q. (By Mr. Lyons) Mr. Waldbusser, you recall we
21 were talking about the RMON standard, which is DX-83.

22 Now, you testified earlier that you were the
23 author of this document?

24 A. Yes.

25 Q. And did you recognize contributions that were

1 made by others to this -- this -- this standard?

2 A. I did.

3 Q. And can you identify that group?

4 A. Well, I had acknowledgment section that --
5 that acknowledged the entire group as a whole but then
6 recognized the special contribution of a number of
7 people who were at the founding -- generally, these were
8 the founding members of the group who would help so
9 much. And on that list is Anil Singhal who -- who
10 testified earlier.

11 Q. Is Mr. Dietz in the group of people that you
12 acknowledged?

13 A. No.

14 Q. Does -- what, if any, significance does that
15 have to you?

16 A. Well, that he wasn't a -- an important
17 contributor to RMON1.

18 Q. So let's go back to our timeline.

19 And in November 1991, after this RMON standard
20 published, what was the impact, if any?

21 A. Well, the -- there was an immediate impact in
22 that a lot of the probe vendors who -- probe companies
23 who were involved with the -- with the process started
24 engineering probes and then selling probes, and they
25 ended up becoming very popular. And, in fact, NetScout

1 produced their own probe between '91 and '92.

2 Q. And is that the probe that is just over your
3 right shoulder?

4 A. Yes, that is.

5 Q. And can you identify that -- that probe?

6 A. Yes, this is a NetScout 6010 Ethernet probe.

7 Q. Thank you. You can set it down. We'll talk
8 about that more later.

9 Now, what -- what was going on in the industry
10 as these new RMON probes were getting introduced?

11 A. Well, we -- there was a lot of success.
12 The -- the probe market started to grow a lot, and then
13 the working group started to -- started work on a new
14 standard, which we called RMON2.

15 Q. And when did -- did that ultimately publish as
16 a standard?

17 A. Yeah, that ultimately published in 1997.

18 Q. Let's take a look at DX-89. Can you identify
19 this exhibit?

20 A. This is RMON2.

21 Q. Who is the author of this standard?

22 A. I am.

23 Q. And is that indicated on the face of the
24 document?

25 A. Yeah, on the top right, S. Waldbusser is -- is

1 me -- well, and also, there's an author's address later
2 on in the document.

3 Q. So let's add that to the timeline.

4 And so from this period when you authored the
5 standard in 1991 to the time when you authored the
6 second standard in 1997, what was your role in the RMON
7 working group?

8 A. I authored a number of the -- well, my -- my
9 official role is I was listed as the working group
10 editor. And as such, I authored lot of the -- a lot of
11 the standards that we published during that time.

12 Q. When you had meetings, what -- did you have
13 any role in those meetings?

14 A. Yes, I was present at every -- every one of
15 the meetings, and I would take notes about what was
16 going on. So they were kind of my working notes because
17 I would have -- when -- when the group reached a
18 consensus, I would have to have a good idea of what the
19 consensus was about. I would back to my office, back at
20 Carnegie Mellon, and I would type the -- this --
21 descriptions of the computer structures that were needed
22 to accomplish what the working group had -- had asked
23 for.

24 Q. How did you end up in that role?

25 A. Well, I was -- first of all, I was one of the

1 co-authors of SNMP, which was a related protocol to
2 RMON. It was -- RMON was related to and based on R --
3 on SNMP. And so I was one of the most expert people in
4 the room for that protocol. So that helped a lot in --
5 in writing RMON and the other protocols.

6 Q. In terms of the group that ended up
7 volunteering, how did you get identified as the person
8 who would have the -- sort of this editor role?

9 A. Well, another aspect was that amongst this
10 group of network probe vendors, I was the -- I was -- I
11 was an academic. I was kind of a neutral third party.
12 So I had warm relations with -- with all these engineers
13 who were -- had come together. And -- and so I was a --
14 a natural go-to for that -- for that role.

15 Q. Now, can you describe how TrackSessions, that
16 specific feature, how did -- how did that develop?

17 A. Well, that was developed in the -- in the --
18 in the group in about the '95 to '96 time frame. And,
19 again, it was a collaborative effort of the folks who --
20 some of whom were listed on -- on that -- on that
21 document.

22 MR. LYONS: Well, let's look at DX-58
23 again.

24 Q. (By Mr. Lyons) And can you remind the jury
25 what this document is?

1 A. This is the protocol identifiers document that
2 I've referred to as the TrackSessions document.

3 Q. And -- and what is -- what about this
4 document -- can you just describe what -- what, if any,
5 significance this has to your sense of when this idea
6 was developed?

7 A. Well, this -- because this was in a document
8 that was published worldwide in November of 1996, I knew
9 that this idea had taken form by that time.

10 Q. And, again, can you identify who were the
11 significant contributors to -- to that idea?

12 A. That was Andy Bierman, Chris Bucci, and Robin
13 Iddon, and other individuals who also had been
14 acknowledged.

15 Q. Is there anyone who stands out as making any
16 particular contribution?

17 A. Actually Robin Iddon was somebody who had --
18 who I remember making the most contributions to this
19 area. It was kind of a pet project of his. He -- he
20 really had some strong ideas here and helped to help
21 this to grow.

22 Q. And of the people who are acknowledged, does
23 that inform your views on who were the significant
24 contributors to this TrackSessions' idea?

25 A. Yeah. I mean, various elements of -- of both

1 groups, but I think that Robin Iddon in particular.

2 Q. So referring to this, can you just explain
3 relative to the patents when the TrackSessions'
4 technology was developed?

5 A. Well, this was published in November of '96,
6 which was -- which was well before when the patents
7 were -- were applied for.

8 Q. Now, did the -- did any of the inventors of
9 the patents in this suit have knowledge of this
10 TrackSessions before they filed their patent
11 applications?

12 A. Yes, they did. Two of them did.

13 Q. Who is that?

14 A. Mr. Dietz did and Mr. Koppenhaver.

15 Q. And how did -- how do you know they had
16 knowledge of the standard?

17 A. Well, for Mr. Dietz --

18 THE WITNESS: Can you go to the next
19 slide, please?

20 MR. LYONS: Sure. Can we look at DX-84?

21 Q. (By Mr. Lyons) Can you identify this
22 document?

23 A. Yeah, this is a -- this is a -- a set of
24 meeting minutes that Mr. Dietz wrote. So we had an
25 in-person meeting in December of '94. And this -- in

1 this meeting Mr. Dietz took the minutes for the meeting,
2 which meant that he had to pay attention to everything
3 to a high enough level of detail that he could write it
4 all up. He -- he couldn't be nodding off. He needed to
5 be -- he had a role to play, and that's -- that's what
6 it was.

7 And this was -- I remember him joining the
8 group as a regular member sometime in '94, so that's --
9 this is consistent with that.

10 MR. LYONS: Let me look at DX-661.

11 Q. (By Mr. Lyons) And can you identify what this
12 document is?

13 A. This is an email from Skip Koppenhaver to the
14 RMON Working Group list.

15 Q. And could you just remind the jury, who is
16 Skip Koppenhaver?

17 A. He's a Technically Elite engineer who I
18 believe worked for Russell Dietz at the time.

19 Q. And what is his relationships to the
20 patents-in-suit?

21 A. He's one of the co-authors -- co-inventors.

22 Q. And what -- what is this document?

23 A. Well, it's -- the subject is: Comments on
24 draft IETF RMON MIB - RMONprot-v2. That's a mouthful,
25 but it -- really that's the technical name for the

1 document that I've called TrackSessions.

2 Q. And what does he -- the subject line says
3 comments on this TrackSessions standard. What -- what
4 is he -- what is the content of this message?

5 A. Well, Mr. Koppenhaver had been asked to write
6 software that would read the -- the TrackSessions
7 document using software and convert that into a database
8 form. And he did that. And along the -- along the way,
9 he learned certain things about the document, things
10 that would -- that would help the authors streamline the
11 document and make it more error free. And so he
12 communicated everything he learned from that process in
13 this email. That's why he wrote it to the working group
14 list so that the authors and everyone could see that.

15 Q. Okay. Why don't we add that to your -- your
16 timeline. And then let's look at DX-657. Can you
17 identify this document, please?

18 A. This is an email from Mr. Dietz to the RMON
19 list, and a person named Chris Wellens.

20 Q. When you say the RMON list, can you explain
21 what that is?

22 A. Well, the -- the RMON group did a lot of its
23 work in in-person meetings where we sat with each other
24 -- you know, sat across the table from each other, but
25 we also -- in between meetings, we accomplished a lot of

1 things by sending emails to one another. Instead of
2 person-to-person emails -- and there were some
3 person-to-person emails -- but most of the time we tried
4 to have everybody together. So it was one email list
5 with many people on it. If you sent email to the list,
6 all of those people would get it.

7 And so when you sent it, you knew that you --
8 you were getting everybody who was interested. And when
9 I see the -- this -- I see an email from Mr. Dietz to
10 the mailing list, I know that he was on the list and
11 also is receiving these emails.

12 Q. Let's add that to your timeline. Let's look
13 at DTX-128. Can you identify this document?

14 A. This is another set of meeting minutes. This
15 is prepared in part by Mr. Bierman and in part by Mr.
16 Dietz. And this is from an in-person meeting on
17 October -- I'm sorry, August 27th of 1998. And one of
18 the -- one of the first things that the minutes talk
19 about is the -- the documents that were discussed during
20 the meeting. And the one that I've highlighted here is
21 -- is called -- is the TrackSessions' document. So that
22 was the subject -- and the minutes continue to show that
23 there were -- there was a lot of discussion about that
24 document at the meeting.

25 Q. So what, if anything, do you conclude, based

1 on this document, about Mr. Dietz's learning about
2 TrackSessions before he filed his patent?

3 A. Well, it shows me two things. When he was
4 present at the meeting, and, therefore, the -- the --
5 the TrackSessions was assessable to him, but also that
6 he was -- since he was writing the minutes, he was
7 playing close attention to what was going on. He
8 couldn't have been nodding off in the back of the
9 meeting.

10 Q. So why don't we add that to our timeline.

11 Now, do you -- you were in the courtroom when
12 Mr. Dietz testified earlier this week?

13 A. Yes.

14 Q. And you recall -- this is DX-43 -- an email
15 exchange that was discussed?

16 A. Yes.

17 Q. And can you explain your understanding of this
18 email?

19 A. Well, Russell Dietz had forwarded a message to
20 Andy Bierman and myself.

21 And -- and first, I'm going to show the -- the
22 message that he forwarded. That's on the right here.
23 This is a message from Albin Warth, a NetScout employee,
24 to Mr. Dietz.

25 And in this message, Albin is proposing that

1 the two of them collaborate on a standard call TPM, and
2 this was -- this was typical of -- of such
3 collaborations.

4 Q. And can you explain what -- your understanding
5 of what Mr. Dietz was emailing to you at this time?

6 A. Well, so Mr. Dietz had forwarded that letter
7 to Andy Bierman and myself. Andy Bierman was the chair
8 of the RMON group at the time, and I was the working
9 group editor. The two of us were pretty influential on
10 the process.

11 And he -- he told us: This makes no sense.
12 Please tell me that he is kidding. So please tell me
13 this is a joke. I am not going to author a MIB with
14 NetScout. No way. I have a credibility issue on the
15 line. Sorry.

16 Q. Was this typical behavior of members of the
17 RMON group, in your experience?

18 A. No, it was not.

19 Q. In what way was it not typical?

20 A. Well, I -- I had -- I had earlier described a
21 collaborative environment. I -- you know, we -- we -- I
22 think many of us had warm relations with one other, and
23 it was about contributing these ideas and resulting in
24 something that was going to benefit the community. I
25 mean, we made -- I mean, we made everything available to

1 the public for free. And so collaboration was the
2 nature of the game. And this was not what we had -- the
3 type of thing we expected.

4 Q. So going back to your timeline, how does the
5 timeline that we see before us of events, can you
6 explain, what, if any, impact that has on your thinking
7 regarding the inventorship of the patents-in-suit?

8 A. Well, I see the same idea being made -- being
9 invented in November of '96 in the red-flagged date.
10 And a group of people who had access to that idea in the
11 -- in the years that passed ultimately claimed that as
12 their own on June 30th of 1999.

13 Q. Now, in doing your analysis in this case, one
14 of the things you were asked was to identify the true
15 inventors. Did you -- were you -- did you follow some
16 legal guidance on how you -- what you were examining?

17 A. Yes, I did.

18 Q. Can you just explain what -- what that is?

19 A. Well, there's a section of the U.S. Code that
20 speaks to this issue, and what it says is that a person
21 shall be entitled to a patent unless he did not himself
22 invent the subject matter sought to be patented.

23 In other words, if the inventors -- named
24 inventors did not actually invent the patent, that
25 patent should not be issued. It should be invalid.

1 Q. Well, let's go through the patents. Let's
2 start with the '789 patent.

3 First of all, does this patent -- do the
4 asserted claims of this patent require the
5 conversational flow concept?

6 A. Yes, they do require the conversational flow
7 concept, and that's important because that's the --
8 that's the thing that was the TrackSessions invention
9 that we're speaking about.

10 Q. And where does that appear in Claim 19?

11 A. That's part of Limitation (d), which mentions
12 conversational flows.

13 Q. And what about the Dependent Claim 20 that's
14 also asserted from that patent?

15 A. Yes. So Claim 20, because it -- it contains
16 all of the limitations from limitation -- from Claim 19,
17 therefore, also, requires conversational flows.

18 Q. And let's go back to the cover of the patent.
19 When you see the list of inventors, are these the
20 inventors of the subject matter that includes a
21 conception of this conversational flow concept?

22 A. No, they are not.

23 Q. Who did come up with that idea?

24 A. The RMON Working Group.

25 Q. And based on your opinion in that regard, do

1 you have a view about whether this patent is valid?

2 A. Therefore, it's invalid.

3 Q. Let's take a look at the '751 patent. Do the
4 asserted claims of this patent include conversational
5 flows?

6 A. They do.

7 Q. Can you explain where that is in Claim 1,
8 please?

9 A. Well, Limitation (b) of Claim 1, it requires
10 conversational flows, the thing that was invented by the
11 RMON group in '96.

12 Q. The other asserted claim from the '751 patent
13 is Claim 5?

14 A. Yeah.

15 Q. Does that include the conversational flow
16 requirement?

17 A. Yes, since Claim 5 is a dependent claim of
18 Claim 1, it also includes conversational flows.

19 Q. Let's go back to the cover page, and you can
20 see the inventors listed on the cover of the patent, are
21 those the true inventors of the '751 patent?

22 A. No, they are not.

23 Q. Who is?

24 A. The RMON Working Group.

25 Q. And do you have an opinion about whether this

1 patent is valid?

2 A. Well, therefore, this patent is invalid, as
3 well.

4 Q. All right. Let's go to the third patent.
5 This is the '725 patent?

6 A. Yes.

7 Q. Do the asserted claims of this patent require
8 this conversational flow idea?

9 A. Yes, they each do.

10 Q. Let's take a look at Claim 10. Where is that
11 within Claim 10?

12 A. Claim 10 in the wherein clause, it requires
13 the conversational flow.

14 Q. And then Claim 17?

15 A. Also in the wherein clause of Claim 17
16 requires the conversational flow.

17 Q. Let's look at the face of the patent. Is
18 this -- in the '725 patent are the inventors listed the
19 true inventors of the asserted claims?

20 A. No, these are not the true inventors.

21 Q. Who is the inventors?

22 A. The RMON Working Group.

23 Q. And do you have an opinion about whether this
24 patent is valid?

25 A. Yeah, therefore, this patent is invalid.

1 Q. Now, did you reach any other opinions in this
2 case regarding the validity of the asserted patent?

3 A. I did. I also looked at this patent to see
4 whether it was invalid based on having been anticipated
5 by previous technology. In other words, whether there
6 was technology that -- that had been available to the
7 public prior to the filing date of the patent.

8 And this is described in a statute called
9 102(a) which says that: A person shall be entitled to a
10 patent unless the invention was known or used by others
11 in this country before the invention thereof by the
12 applicant for a patent.

13 Q. Well, let's go back to our timeline.

14 And are you aware of -- of a known -- a use of
15 this patent before -- or a use of the technology covered
16 in this patent before the filing date?

17 A. Yes, in particular, I found it in the NetScout
18 6010 RMON2 probe that had TrackSessions.

19 Q. And what --

20 A. And that -- that was -- that was available to
21 the public in October of 1998.

22 Q. Now, the -- you referenced earlier the
23 physical exhibit DX-189. That's to your -- to your
24 right.

25 A. Yes.

1 Q. Is -- is that the NetScout probe that you're
2 talking about?

3 A. It is.

4 Q. And can you -- why don't you take a look at
5 that and show that to the jury.

6 A. So the -- the front panel of these is -- is --
7 is pretty simple. It has a power switch and some LED
8 lights. Remember, this is --

9 MR. LYONS: Your Honor, may I -- may I
10 ask if the witness may approach the jury box to very
11 briefly show them the -- the prior art product?

12 THE COURT: I'll allow the witness to
13 stand beside the jury box, but he doesn't need to get
14 any closer than he is. If it would help for you to
15 stand up and hold that while you talk about it, that's
16 fine.

17 THE WITNESS: From here, Your Honor?

18 THE COURT: From right there, sure.

19 THE WITNESS: Okay. Thank you, Your
20 Honor.

21 A. This --

22 THE COURT: You will need to speak up.

23 THE WITNESS: Yes.

24 A. This front panel is -- is pretty simple
25 because remember these are remote probes. They're

1 placed throughout the network often in a dark room that
2 nobody ever goes in. It's a room that stores
3 communications equipment. So there's nothing special
4 there.

5 On the back panel, this is a little bit more
6 special to me. This has the network interfaces that are
7 connected to the connection points in the network. In
8 other words, a wire will plug into one or more of these.
9 The packets come in on the wire, and then the probe can
10 examine those packets and do -- do the stuff that --
11 that we've talked about.

12 When I look at this, this has significance to
13 me because a few of the interfaces on the back here, a
14 few of the connectors are the types of connectors
15 that -- that I've never seen used for almost 20 years.
16 So it tells me that this is the type of box that was
17 available at that time. These are older, slower network
18 connections that -- they were typical at that time, and
19 not typical at all today.

20 Q. (By Mr. Lyons) Thank you, Mr. Waldbusser.
21 Yeah, you can put the exhibit down.

22 You referred to DX-377. I think somewhere
23 there's a -- a manual -- yes, and maybe you can hold
24 that up for the jury so they can see it, what you're
25 looking at.

1 A. This is the NetScout Probe Agent Guide, and in
2 the inside front cover is the -- the designation that
3 it's for the Version 4.5 of the product and was released
4 in October of 1998.

5 Q. And what do you know about the capabilities of
6 this probe?

7 A. Well, if you turn to the -- this -- the first
8 slide here, this -- this slide tells me that it's an
9 RMON2 probe, which means that it implements the -- the
10 RMON standard that -- that I had authored in 1997.
11 Sorry -- get that right, yeah, 1997.

12 And then -- and then also I have highlighted
13 that it implements SunRPC, which is one of the protocols
14 that TrackSessions is useful for.

15 Q. Now, did this -- was this product capable of
16 TrackSessions?

17 A. It was, yes. If you go to the next page, we
18 see a part of the user manual that talks about how you
19 configure TrackSessions on the probe, and it describes
20 it as the ability to count packets to and from these
21 alternative ports is known as TrackSession capability.

22 And one of the things I noticed in the manual
23 is that these configuration things let you change --
24 remember, the -- TrackSessions is about remembering the
25 port. Well, this is how you tell it how many ports it

1 will remember and for how long it will remember them.
2 And that's -- those -- those are the types of things
3 that showed me, you know, that -- that this was the port
4 implementation that I was talking about.

5 Also point out that it says that all NetScout
6 probes have TrackSession capability, and as you heard
7 Mr. Nadkarni and Mr. Singhal testify, the -- this
8 referenced the fact that there was one software build --
9 one software -- one piece of software could be used
10 across any of the probes, that it had been shipped
11 across all their customers.

12 Q. Have you seen any other documentation that
13 helps you date when this product was available?

14 A. Yes.

15 THE WITNESS: If you go to the next
16 slide, please?

17 A. This is a -- a couple of pages from a training
18 presentation that was -- it was given to their
19 application engineers. These are the guys who would go
20 out and help train customers on -- on new -- new
21 products.

22 So application engineers wanted -- needed to
23 know about the new features, and this was an important
24 release that was upcoming. And so this September '98
25 document contained in the next page -- it contained

1 information about the -- the 4.5 release.

2 So the top says -- stands for -- NSP is
3 NetScout probe. This is the 4.5 release they're talking
4 about. And it describes the session tracking
5 capability, which is another -- another name for
6 TrackSessions.

7 And this says that it allows the probe to
8 automatically track applications that use multiple
9 ports, and talks about TFTP as one example. RPC is
10 another example. That's the same SunRPC as we've --
11 we've been talking about.

12 Q. Now, in your -- forming your opinion, did you
13 consider any other information about this NetScout
14 probe?

15 A. Well, I see on the -- the bottom of this page,
16 there's a diagram. And it looks a little like the
17 diagrams I've been using. It's -- with a client on the
18 left and the server on the right. And it shows how the
19 TrackSessions technique could be used to -- to monitor a
20 connection to well-known port, Port 69 on the bottom.
21 And then a response that goes back on a dynamic port.

22 It's listed here as Port x that's -- that
23 represents a dynamic port, and that it is tracking the
24 application even though it switches ports.

25 Q. Other than what we've -- we've looked at here,

1 did you consider any other information about this
2 NetScout prior art probe?

3 A. Yes.

4 Q. Can you describe for the jury what that is?

5 A. I had a lot of information available to me to
6 analyze in -- in forming my opinion. I had the probe
7 itself. I had manuals for the probe. And you saw one
8 of them. I had marketing materials that described
9 the -- generally the features, although a little bit
10 about the internals, but I also had other technical
11 documents that told me more about internals. I had
12 testimony of Anil Singhal, and you also heard testimony
13 from Mr. Nadkarni who -- who also talked about the --
14 the probes and their capabilities.

15 I also talked to NetScout engineers who
16 were -- who had worked on the probe at the time, and
17 these are the people who knew the features of the probe,
18 but then also the internal stuff that made it all work.
19 And that was really helpful for me to understand the --
20 the -- the function of the product.

21 And I'm going to go back to them in a second,
22 because the last thing on the list is source code.

23 Source code is the -- are the files that
24 computer programmers write in language like C. They
25 write these files, and these files tell the -- tell the

1 probe what to do. And I had all that -- all that code
2 for the 4.5 code available to me. And I could look at
3 that to see what -- what things it did.

4 But then those engineers were also helpful for
5 me in -- in finding and understanding the structures and
6 things that I found inside.

7 Q. Now, did you -- once you gathered all this
8 information on the product, did you do an analysis with
9 respect to the asserted patents?

10 A. I did.

11 Q. Now, one question I wanted to clarify, did the
12 patent examiners who issued these patents, did they
13 issue these patents after evaluating this product?

14 A. No. They did not have access to, they did not
15 know about it. It just simply wasn't disclosed to them.

16 Q. But the patent does mention RMON, doesn't it?

17 A. Well, roundabout. Some of the patents have a
18 few references to RMON. The one reference in particular
19 just kind of --

20 MR. LYONS: Why don't we pull up -- could
21 we switch to DX-475, and I would ask that we pull up
22 Column 2, and specifically, if you could blow up Lines
23 32 through about 40.

24 Q. (By Mr. Lyons) Now, Mr. Waldbusser, this --
25 doesn't this -- isn't this a disclosure to the patent

1 examiner about RMON2?

2 A. No, no. This -- what this says is: Though
3 Netflow, RMON2, and other network monitors are available
4 for the real-time monitoring of networks, they lack
5 visibility into application content and are typically
6 limited as to providing network layer level information.

7 Now, first of all, this is false. It -- they
8 are not limited to providing network layer information.
9 In fact, they specifically provide visibility into the
10 application content. That's -- that's why they were
11 created.

12 So when I see this in the context of a
13 disclosure of a -- of a patent application, I'm thinking
14 that the patent examiner is sort of being distracted
15 away from this, that they -- why would they look at RMON
16 after reading this, after reading, the inventors say
17 that this -- this isn't interesting. And I -- I find it
18 a disturbing mischaracterization of the technology.

19 Q. And is there a -- did the patent examiners
20 have before them, for example, that TrackSessions
21 standard that we've been talking about or other
22 information on -- on TrackSessions?

23 A. No, it was not disclosed to them.

24 MR. LYONS: If you could go back to his
25 presentation.

1 Q. (By Mr. Lyons) Mr. Waldbusser, could you walk
2 us through your analysis on an element-by-element basis
3 and explain your -- your opinion?

4 A. Yeah, I'd be happy to. So this is Claim 19 of
5 the '789 patent. And the --

6 Q. You know, actually, Mr. Waldbusser, this is
7 the first time we're seeing the claim. And what I would
8 ask you to do is if you could just provide a brief
9 explanation of the elements?

10 A. Sure.

11 Q. And then you can come back and do your
12 analysis?

13 A. That's a good idea.

14 THE COURT: Approach the bench, Counsel.
15 (Bench conference.)

16 THE COURT: That's not permitted. You
17 can't instruct the witness on how to answer. I'm -- I'm
18 going to give you some latitude, but he's not going to
19 enter into a narrative lecture. I'm telling you this
20 outside the presence of the jury, but it's not your job
21 to explain to the witness how he's going to testify.

22 You're to ask him questions, and he'll
23 answer them.

24 MR. LYONS: Understood.

25 THE COURT: The other thing, Mr. Lyons,

1 I've said throughout pre-trial the one thing I don't
2 like are surprises. If you had any intention of asking
3 this witness to get up with a big plastic box and walk
4 over into the jury box or adjacent to the jury box, that
5 is something that we could have easily talked about.
6 You asked me just to turn him loose. I had no idea if
7 he was going to get into those jurors' faces, was he
8 going to remain a respectable distance. You asked me
9 about releasing the witness before I brought the jury
10 in, but you never mentioned this. I'm not about to turn
11 a witness loose without some idea of what he's going to
12 do and how he's going to do it.

13 So when you acted rather incredulous that
14 I said no, he could stand up, it's because you didn't
15 give me any idea you were about to pull that out of thin
16 air. That is exactly the kind of thing that if we had
17 talked about it in advance and we had a clear
18 understanding of what he was going to do and how he was
19 going to do it, he might have had much more latitude
20 than merely standing next to the witness stand.

21 So going forward, if you have ideas about
22 things you want to do that involve movement around the
23 courtroom or anything of a similar nature, if you will
24 raise them with me outside the jury's presence, we can
25 probably get a clear understanding, and you'll get a

1 much better result than if you pull something out of
2 left field like that again.

3 MR. LYONS: I understand.

4 THE COURT: Understand?

5 MR. LYONS: Yeah, I got it. Thank you.

6 THE COURT: Let's continue.

7 MR. LYONS: Thank you, Your Honor.

8 (Bench conference concluded.)

9 THE COURT: Let's proceed.

10 Q. (By Mr. Lyons) Can you explain your
11 understanding of this element, please?

12 A. Yes, this element describes a packet monitor
13 for examining packets. That is -- basically, an RMON
14 probe is a packet monitor for examining packets.

15 Q. And Element A, a packet acquisition device,
16 can you explain to the jury your understanding of -- of
17 this location.

18 A. This is a portion of a device that's
19 configured to receive packets. Before I pointed to the
20 back panel that showed the interfaces on the probe,
21 that's what those were.

22 Q. Next, Element B is an input buffer memory.
23 Can you explain your understanding of this element,
24 please?

25 A. Well, standard operating procedure for network

1 probes is to take the packet and place it into a buffer
2 memory so that it can be examined in -- in the -- in the
3 fields understood.

4 Q. And the next element is a parser subsystem,
5 can you please explain your understanding?

6 A. Well, this talks about the examination I
7 referred to. So the -- the probe knows the protocol in
8 use, and it finds all the fields of the protocol,
9 separates them apart or slices them, and then extracts
10 portions from some of those fields.

11 Q. The next element, D, is a memory, can you
12 explain what this element is?

13 A. So we want to create those flow-entries to
14 store the -- the connections and the conversations, and
15 so this -- this is the memory for that.

16 Q. Now, this limitation also refers to
17 conversational flows?

18 A. It does.

19 Q. And did -- I put the Court's claim
20 construction. Can you explain how you used this,
21 please?

22 A. Yeah, this is the sequence of packets that are
23 exchanged in any direction as a result of an activity,
24 and that's a key word, they have to be the result of an
25 activity. An activity, for instance, the result -- the

1 running of an application on a server as requested by a
2 client and where some conversational flows involve more
3 than one connection and some even involve more than one
4 exchange of packets between a client and a server.

5 So what this is basically saying is that it is
6 a sequence of packets based on -- based on an activity
7 that involves more than one connection. That is a
8 conversational flow.

9 Q. Now, Element E is a look-up engine. Can you
10 explain your understanding of this element?

11 A. A look-up engine is the part of the system
12 that -- that matches a key, looks up the key and
13 finds -- looks for a resulting match in the table.

14 Q. And F is a flow insertion engine. What is
15 your understanding of this element?

16 A. Now, if a key is not found, we need to create
17 a new flow. And that's done by the flow insertion
18 engine.

19 Q. Now, finally, there's a wherein clause at the
20 end. What is your understanding of this element?

21 A. Well, this says that the -- the device must
22 depend on the protocols that are -- to which the packets
23 conforms. And that's typical and necessary of any
24 probe. It has to depend on the protocols. Without --
25 without knowing the protocols you're just going to get

1 gibberish out of the whole recognition process.

2 Q. Now, in doing your analysis of Claim 19, did
3 Dr. Almeroth dispute all of the positions you've taken
4 in this case?

5 A. No, he did not.

6 Q. And can you identify which parts of the claim
7 you don't believe are disputed by Dr. Almeroth?

8 A. Well, the preamble to Claim 19 is undisputed,
9 Limitations (b) and (c) are undisputed, and finally, the
10 wherein clause, he did not have any reason to dispute
11 those.

12 Q. So why don't we walk through your analysis
13 of -- of this claim, and using your -- the example that
14 you had, can you just explain your -- your opinion about
15 whether this element is met?

16 A. Sure. So we're going to walk through the
17 diagram and -- and match up some of the steps with
18 what's happening in the NetScout probe.

19 So we're talking about SunRPC where Bob's
20 computer sends an RPC request, and we find that a packet
21 monitor for examining packets is met by the probe
22 itself.

23 Q. And that -- where is that shown on this
24 diagram?

25 A. Well, it's the -- both the red box and the

1 picture of the -- of the NetScout probe.

2 Q. So that's the -- the first element you believe
3 that is met by the prior art probe?

4 A. That's right. That's its fundamental purpose.

5 Q. And what other evidence did you find for that?

6 A. Well, the -- the manual says that the probe
7 agents gather this information by examining each and
8 every packet that is passed in the network segment that
9 is attached to the probe's monitor interfaces. So that
10 shows me that it is performing the preamble.

11 Q. So in your opinion, is this element met?

12 A. It is met.

13 Q. So I will check that.

14 Let me go to the next element of this claim, a
15 packet acquisition device. Is that element met by the
16 NetScout probe?

17 A. Yes, it is.

18 Q. Could you explain your opinion?

19 A. Well, the packet acquisition device is -- are
20 the interfaces on the back. And I've -- when I was
21 examining the source code, I also found elements of the
22 source code that -- that showed me that these were
23 interfaces -- that these interfaces were packet
24 acquisition devices.

25 Q. Did you find other evidence?

1 A. In the manual, the -- that same section of the
2 manual talked about examining each and every packet
3 passed on the network segment.

4 Q. So based on the evidence that you've seen,
5 does the prior art probe meet this element?

6 A. It does.

7 Q. Check that box.

8 Let me go to the next element, an input buffer
9 memory. Is this element met by the NetScout probe?

10 A. Yes, the NetScout probe has an input buffer
11 memory, and I found this in the source code. The input
12 buffer memory is the place where the packet is stored so
13 that it can be examined. And this shows the source code
14 that I found that is -- that implements that, that that
15 buffer memory, that it refers to allocating the next
16 received buffer. That's where the packets are received
17 into.

18 Q. Now, can you just explain what the jury is
19 seeing at the bottom of this slide?

20 A. This is --

21 Q. By the way, an excerpt from DX-67.

22 A. Yeah, this is an example of programming
23 language source code. So this -- these are instructions
24 written by a programmer to tell a computer what to do.
25 Though in -- in -- intermixed in the -- in the computer

1 code, the programmer can write English comments just in
2 their own freehand that describes what the code is going
3 to do, and that's what I've highlighted here.

4 Q. And so based on the evidence you've seen, is
5 the input buffer memory element met by the NetScout
6 probe?

7 A. It is met.

8 Q. Check that.

9 Let's go to -- the next element is a parser
10 subsystem. Is this element met by the NetScout probe?

11 A. Yes, it is.

12 Q. And what is your -- the basis for that
13 opinion?

14 A. Well, first of all, the -- this -- the first
15 thing I'd like to show you is the top of a file called
16 the pp.c. And this is -- where pp stands for protocol
17 parser. And this is -- the description of it is that
18 it's a protocol parsing and configuration function. And
19 this was written by Mr. Singhal.

20 Q. Is there other evidence that you considered in
21 connection with this element?

22 A. Yes. This -- this source code that I have
23 highlighted here meets the elements of the claim that --
24 that --

25 THE WITNESS: Can you go to the next

1 slide, please?

2 A. The -- the -- the -- this part that says
3 src_port is -- is parsing -- is first of all, slicing
4 and then -- and then extracting that -- that piece of
5 the packet. And then it is -- there we go -- it's
6 parsing it -- it's -- it includes a slicer, which is
7 what divides it up and pulls -- pulls the pieces out.
8 It extracts the pieces in this -- in Lines 1890 and
9 1891, and then in the combination of the four lines is
10 what accomplishing -- accomplishes the outputting of a
11 parser record.

12 Q. (By Mr. Lyons) And so in your opinion, is
13 this element met by the NetScout probe?

14 A. Yes, it is.

15 Q. Go to the next Element (D): A memory for
16 storing a database comprising none or more flow-entries
17 for previously encountered conversational flows.

18 Is this element met?

19 A. Yes, it is.

20 Q. Could you explain your opinion?

21 THE WITNESS: Could you go to the next
22 slide, please?

23 A. This is -- the step we're speaking of where
24 the -- the key from the packet is -- is added -- looked
25 up and then added to the table.

1 THE WITNESS: So next slide, please.

2 A. And this is the code that implements that
3 table. So first of all, the title of the file is
4 trackses.h, which is short for TrackSessions. And the
5 -- the lines that are highlighted at the top right now
6 represents the key that is the portion of the database
7 that stores the key.

8 And then the next line that was just
9 highlighted, program number, this is where the
10 application field of the table is stored.

11 And then finally, the last_activity_time is we
12 -- where we store some statistical information about
13 the -- about this connection, and that says, for
14 instance, if we were to record seven seconds past 10:00
15 a.m.

16 Q. (By Mr. Lyons) Can you continue with your
17 example?

18 A. Well, this limitation also required that --
19 evidence of conversational flows, and remember that's
20 where we're going to remember the port number and join
21 the connections together and so --

22 THE WITNESS: Keep going with the
23 animation, please.

24 A. So here we remember the port number. We -- we
25 put the port number in this port mapper packet, examine

1 that packet, correlate the red key to the new purple key
2 where we're -- where we're remembering the port number.
3 That's the process that I'm about to show you. So it --
4 part of it is unsurprisingly in trackses.h with -- for
5 TrackSessions.

6 Then also part of it is in the --

7 THE WITNESS: Can you go back one slide,
8 please?

9 A. The pp.c has the -- has the code that
10 remembers the port. That Line 1817 actually remembers
11 the port, and the highlighted comment above it tells a
12 little bit about what it's doing. It's assigning the
13 new port for the previously asked program, and then
14 assigning the port.

15 And then on the next slide it shows the -- the
16 code that swaps the hash bucket. And then it --

17 Q. What does that mean?

18 A. Well, it means that we're -- it essentially
19 means we're adding this new entry to the table.

20 Q. What's -- what's --

21 A. In other words, adding the purple key to
22 the -- to the -- to the hash table.

23 THE COURT: Gentlemen, please don't talk
24 over each other.

25 THE WITNESS: Sorry, Your Honor.

1 Q. (By Mr. Lyons) So can you explain how that
2 informs your decision about -- opinion about whether
3 this element is met?

4 A. Oh, when I found those things, I realized that
5 I found all the elements for the conversational flow.

6 Q. And so is this element met?

7 A. Yes, it is.

8 Q. Let's go to Element (E). And can you explain
9 whether you have concluded that the look-up engine
10 element is met?

11 A. Sure. I think -- I think we have an animation
12 on the look-up engine, or maybe not. We've seen that
13 already.

14 But this is the code for the look-up engine,
15 and it starts with a comment by the programmer, and --
16 which says check the port number, protocol, interface
17 number, and source and destination address. You might
18 recognize those as the fields of the 5-Tuple. Those are
19 the -- those are the important parts of the key. And
20 checking means matching. And the code underneath is the
21 code that's actually doing the matching and -- and
22 forming it into the key.

23 Q. So based on -- on that evidence, do you have
24 an opinion about whether this element is met?

25 A. Yes, this element is met.

1 Q. Let's go to Element (F), a flow insertion
2 engine. Is this element of the claim met?

3 A. Yes, it is.

4 Q. Can you explain your -- your analysis?

5 A. Well, when the -- when we look for a key and
6 don't find it, we need to add it to the table. And the
7 code for that is here -- in Line 1092, it says to add it
8 at the -- at the new -- the new entry. And the code
9 from 1102 to 1116 is the code that actually creates this
10 new -- initializes this new entry.

11 Q. Now, can you explain what happens after the --
12 that sequence of steps?

13 A. Well, what's -- what's happened there is that
14 the -- the new key has been added.

15 THE WITNESS: And then can you go to the
16 next slide?

17 A. This is the code that -- that's looking --
18 that's -- that's had -- classifying the -- the
19 packet-based on the flow that it was just added to,
20 based on the fact that the port information was
21 matching.

22 Q. (By Mr. Lyons) So based on -- on that, have
23 you determined whether the flow insertion engine is
24 present in the NetScout probe?

25 A. Yes, that -- I found that it was there.

1 Q. And, now, lastly, there's a wherein clause.
2 Is this element met?

3 A. It is. This is the one that says that the --
4 that the probe needs to depend on the protocols of the
5 packet.

6 Q. And do you have an opinion about whether this
7 element is met?

8 A. Yeah. There are many examples of code that
9 meets this. This is just one of them. In fact, the
10 protocol parser is littered with code that meets the
11 element of -- of being dependent on protocols. But this
12 one is the code that -- that runs when -- when it's --
13 when you can't discover the protocol.

14 Q. So based on that, do you have an opinion of
15 whether this element is met?

16 A. Yes, this element is met.

17 Q. Check that off.

18 So could you just sort of sum up your opinions
19 about this claim, please?

20 A. Well, in order to show invalidity through
21 anticipation, I need to show that each of the
22 limitations of a claim are met. And -- and I've just
23 walked through that process. And those are the steps
24 that link two connection flows together into one
25 conversational flows -- one conversational flow.

1 Q. Now, if we look at the claim as a whole with
2 all the elements assembled together, can you explain
3 your overall opinion, please?

4 A. That Claim 19 is invalid.

5 Q. Now, did you also consider Claim 20 of the --
6 of this patent?

7 A. I did.

8 Q. And is this element met?

9 A. Well, Claim 20 is a lot easier because it
10 depends on all the claims -- all the limitations that I
11 just showed you.

12 In addition, I need to show one more, which is
13 that it's accepted by the packet buffer memory and
14 examined by the monitor in real-time. And the key part
15 there is that it happens in real-time.

16 Q. And do you have an opinion about whether that
17 -- that occurs?

18 A. Yes, it does.

19 THE WITNESS: Go to the next slide,
20 please.

21 A. First of all, we'll show that it's examining,
22 accepted by packet buffer memory and examined by the
23 monitor in this manual section here.

24 Put in the memory and the next received
25 buffer.

1 And then with regards to the real-time
2 component, this is Mr. Singhal's software code in a --
3 in a -- in a file called rtproc.c where rt stands for
4 real-time. And the description says that it contains
5 the top level real-time procedure.

6 Q. (By Mr. Lyons) Based on this evidence, do you
7 have an opinion about whether this element is met?

8 A. This element is met.

9 Q. So if we go back to -- to both claims for --
10 both asserted claims in the '789 patent, do you have an
11 opinion about whether these are valid?

12 A. Both of these are invalid.

13 Q. Let's go to the -- the next asserted patent,
14 the '751.

15 Once again, was the Patent Office aware of the
16 NetScout probe when they were evaluating whether to
17 grant this patent?

18 A. No, it was not amongst the disclosure for this
19 patent.

20 Q. So let's turn to Claim 1 and go through these
21 elements.

22 The first element is a method of analyzing a
23 flow of packets. Is this element met by the -- the
24 NetScout probe?

25 A. Yes, it is.

1 Q. And why do you -- why did you conclude that?

2 A. Well, this is a fundamental activity of any
3 probe.

4 Q. So your opinion is this element is met?

5 A. Yes, it's -- probes analyze flows of packets.

6 Q. And why don't we go to the next element of the
7 claim, receiving a packet from a packet acquisition
8 device, is this element met?

9 A. Yes, this is standard procedure for a probe.

10 Q. And did you see any evidence to support your
11 conclusion?

12 A. Yeah, the probe manual says that it does
13 exactly that.

14 Q. So is this element met?

15 A. Yes.

16 Q. Let's look at the next element of the claim,
17 Element (B) for each received packet, looking up a
18 flow-entry database, is this element of the claim met?

19 A. Yes, it is.

20 Q. And first of all, did you consider the Court's
21 construction in analyzing this element?

22 A. Yeah, this element has a definition that was
23 decided by the Court that says that a flow-entry
24 database is a database configured to store entries where
25 each entry describes a flow. And so when I analyzed

1 this, I used this definition as -- as part of the
2 analysis.

3 Q. And what did you conclude?

4 A. That I found this flow-entry database.

5 Q. And what was that based upon?

6 A. Well, this code here, which we just saw
7 earlier, you know, showed matching the keys with -- and,
8 there -- therefore, looking up the entries in the flow
9 table.

10 Q. Now, what opinion did you reach regarding the
11 highlighted portion of the claim, a set of one or more
12 states, including an initial state?

13 A. The code that I have highlighted here on the
14 very bottom we have a comment that talks about
15 initializing the port info fields. And right below it
16 is a section of code where we're doing the actual
17 initialization to a variable called curr_state. In
18 other words, current state. The state is -- it says
19 what's the state of this flow. And we're initializing
20 it in this code.

21 Q. Now, this limitation also has the
22 conversational flow element. Did you have an opinion
23 about whether that's met in this claim?

24 A. Yes, I -- I found the conversational flow
25 limitation here.

1 Q. And can you explain, again, what that was
2 based on?

3 A. Yeah, this is, like before, the references to
4 tracksession.h. The -- the remembering the port code
5 that is on Line 1817 and describe -- described up above.

6 And then finally, the -- the code on 1835 and
7 1836 that takes the remembered port and adds it to the
8 table.

9 Q. And based on this evidence, have you concluded
10 whether this element is met?

11 A. Yes, it is met.

12 Q. So let's go to the next element, (C). Do you
13 have an opinion about whether this element is met?

14 A. I found that it is met.

15 Q. Can you explain your analysis?

16 A. Sure.

17 Now, this has -- this one has several
18 components, but they're grouped in the same section of
19 code.

20 The first step is to find the code that
21 identifies the last encountered state, and that's where
22 we find that last encountered state in the variable
23 well-known port. That's the state that was remembered
24 from the well-known connection, the first connection.

25 Then in green we perform the state operation

1 specified for the state, and that state operation is to
2 assign the old well-known port into the -- into the
3 subid and hash_id variables.

4 And then finally, we want to store a
5 statistical measure, and that is done in the orange
6 highlighted text at the bottom. This code is just
7 writing down the current time of day. Marking this
8 connection with the last time of day so that we can keep
9 track of the time of the packets.

10 Q. And what part of this matches the requirement
11 to show the statistical measure?

12 A. Well, the last -- the last two lines. The --
13 the updating the last activity time meets the patent's
14 definition of a statistical measure.

15 Q. Does the patent give any indication whether
16 the time is related to statistical measures?

17 A. Yeah, it does. And that was a pop-up here.
18 It says that each flow-entry includes one or more
19 statistical measures. For example, the packet count
20 related to the flow, we've seen that, the time of
21 arrival of a packet, and that's exactly what this is, or
22 the time differential. Time differential is something
23 that we've seen also in the packet -- in the -- in
24 the -- in the code.

25 Q. And so based on all of this analysis do you

1 have an opinion about whether this element is met?

2 A. This element is met.

3 Q. Let me go to the next element in the claim,
4 and is this element met?

5 A. Yes, Limitation (D) is met.

6 Q. And could you explain your analysis, please?

7 A. Yeah.

8 THE WITNESS: Can you go to the next
9 slide, please?

10 A. So this is also separated by color. Now, the
11 code comes from that protocol parser file, and so the
12 green text says to -- that we want to perform state
13 operations required for the initial state of the flow.
14 And you can see that I've highlighted 1102 and 1103
15 where we're initializing the port_info fields, in
16 particular the curr_state field.

17 Then where in yellow we get to store new
18 flow-entry for the new flow in the flow-entry database.
19 And this ADD_TO_HASH function is the -- is the code that
20 adds the -- the flow-entry to what's called a hash
21 table. That's why it says ADD_TO_HASH.

22 Q. (By Mr. Lyons) And based on that analysis,
23 did you consider any other code in your analysis?

24 A. Well, this one also required storing one or
25 more statistical measures in this new flow. And so the

1 code snippet below, I point out that it's a new flow.
2 And we're actually initializing the statistical measures
3 on 887.

4 Q. So based on that evidence and this additional
5 information, did you -- can you explain what other
6 evidence you considered for this element?

7 A. This -- these were more statistical measures.
8 The frame time is another timer. And also, the request
9 count where we're updating the counter, it's how many
10 packets were received.

11 Q. And this code is from DX-48. And based on
12 your analysis of this, did you include -- what did you
13 conclude about this element?

14 A. I found that this element -- this limitation
15 was met.

16 Q. And why don't we go to the next one.

17 The element wherein every packet passing
18 through the connection point is received by the packet
19 acquisition device, is that element met?

20 A. It is.

21 Q. And can you explain why you concluded that?

22 A. And this one simply meant by showing that it
23 is -- has an interface -- a packet acquisition device
24 that is receiving packets.

25 Q. And so based on that, is this element met?

1 A. Yeah, the manual shows that.

2 Q. The next element is wherein at least one step
3 of the set consisting of, and it lists a step (a) and a
4 step (b)?

5 A. Uh-huh.

6 Q. Is it your opinion this element is met?

7 A. Yes.

8 Q. Can you explain your analysis?

9 A. Where the text below or the source code below
10 shows a -- a protocol being used in the case -- in this
11 case, it's the well-known port from the first connection
12 is -- does identify a protocol -- for example, email --
13 and it's -- it's part of a plurality of protocols.
14 Plurality means more than one. And it means that it is
15 selected from many protocols. It could be email. It
16 could be port mapper. So this limitation is met.

17 Q. Let's go to the next element or the last
18 element. Such that the flow-entry database is to store
19 flow-entries for a plurality of conversational flows.

20 Is this element met?

21 A. Yes, it is.

22 Q. And can you explain your analysis?

23 A. Yeah. There are two key parts here. In
24 yellow, we need to store flow entries. And I've pointed
25 to this ADD_TO_HASH function because we're storing flow

1 entries in this hash table. And then the
2 disc_rpc_children here is an example of -- of the
3 plurality of layer levels because RPC refers to the RPC
4 protocol that's part of SunRPC that's a part of a
5 protocol called TCP which is part of IP. So it's --
6 there are many protocols involved in -- in that -- in
7 that protocol.

8 And finally, that it's above the network
9 layer.

10 Q. And you also analyzed the limitation requiring
11 conversational flows?

12 A. I did. And this was met by the same code that
13 I showed earlier from tracksessions.h, the one that --
14 the -- the part that's remembering the port, adding it
15 to the assigned port variable, and then adding the key
16 to the table in -- which is the hash table variable.

17 Q. And so do you have an opinion about whether
18 this element is met?

19 A. This one is met.

20 Q. Check that off.

21 And in light of -- we'll assemble all the
22 checkmarks here on one page. Can you just give a
23 summary of your opinion for Claim 1 of the '751 patent,
24 please?

25 A. In -- yeah. In light of the fact that there

1 are -- that each of the limitations is met, I found that
2 this claim is invalid.

3 Q. Let's go to Claim 5 of the '751 patent. Do
4 you have an opinion about whether this element is met?

5 A. This element is met. It's a dependent claim,
6 so it only -- it incorporates all the limitations from
7 before which I've already shown are met, but then we
8 have the one new limitation.

9 Q. Now, first of all, is there any dispute
10 between you and Dr. Almeroth about whether this element
11 is met by the NetScout probe?

12 A. There is not any dispute.

13 Q. And can you explain your analysis for this
14 claim?

15 A. Well, this claim element -- element adds the
16 need to report one or more metrics and that these
17 metrics be related to one or more statistical measures
18 in the flow-entry. And the -- the reporting, as well as
19 the statistical metrics, are found in Line 991 and 992,
20 which performs -- it actually keeps track of the
21 difference in time between two packets, and that is an
22 example of a time differential.

23 And then that -- that's reported through a
24 subsystem that's going to send them to SNMP.

25 Q. So is this element met?

1 A. Yes.

2 Q. And going back to -- looking at both of the
3 asserted claims for the '751 patent, based on your
4 analysis, do you have opinion about whether Claim 5 is
5 valid?

6 A. Claim 5 is -- I found that to be invalid.

7 Q. And so both -- and what is your opinion about
8 both claims?

9 A. Well, both -- both claims -- asserted claims
10 from this patent are invalid.

11 Q. So why don't we go to the last patent, the
12 '725. And once again, when you reviewed the file
13 history, did you see any indication that the NetScout
14 probe had been considered by the Patent Office before it
15 issued this patent?

16 A. No, there was no record of that.

17 Q. And so let's turn to Claim 10. First of all,
18 are there any areas where you and Dr. Almeroth are not
19 in dispute with regard to this claim?

20 A. Yeah. For this claim there's a lot where
21 we're not in dispute, a lot where -- well -- Limitations
22 (B) and it's sub-limitations, as well as (C), which
23 together account for a lot of this claim, are not
24 disputed.

25 Q. All right. Let's start with the preamble

1 here. A method of performing protocol specific
2 operations. Is this preamble met by the prior art
3 NetScout probe?

4 A. It is met.

5 Q. And can you explain your analysis?

6 A. Well, it's -- this is a standard thing that an
7 RMON probe does, performing protocol specific operations
8 on a packet passing through a connection point.

9 Q. And so this element is met?

10 A. It is.

11 Q. And let's look at the next element, receiving
12 the packet. Is that element met?

13 A. Yes, it is.

14 Q. What's the basis for this patent?

15 A. Well, once again, the manual shows it, and
16 it's -- and I also know it to be a standard part of a
17 probe. This is something that -- that is typical.

18 Q. So this element is met?

19 A. Yes.

20 Q. And let's go to the next element in the claim,
21 Claim (B) -- Element (B), receiving a set of protocol
22 descriptions. Is this element met?

23 A. It is.

24 Q. Please explain your analysis.

25 A. Well, this -- this part is a little bit

1 different. So we need to show that -- that the -- that
2 there's a set of protocol descriptions following a
3 layered model, and nearly all the protocols do follow
4 later -- layered model.

5 What I show here is that PP_ID_TCP, which
6 refers to the TCP protocol on Line 295 -- I'm told I can
7 mark these. And PP_ID_IP, this shows the layered model.
8 It says: The TCP is a child of IP. That's the
9 relationship there.

10 And -- and we also have another -- another
11 entry for IP here. So this is a layered model, and a
12 plurality -- plurality of protocols, because there's
13 more than one. There's both TCP, and there's IP.

14 Q. And did you consider any other evidence with
15 regard to this element?

16 A. Yes.

17 Q. Can you explain?

18 A. Well, the other part of the element requires
19 that these be received by the -- by the device. And the
20 protocol descriptions I showed you on the previous page,
21 they're compiled into firmware. And the firmware can be
22 loaded into the probe through the TFTP protocol.

23 And this -- the manual talks about how that's
24 done. The highlighted part says that it loads the new
25 agent code from a TFTP server into the probe. So that

1 agent code includes the firmware that includes those
2 protocol descriptions I just showed you. And this TFTP
3 process is loading it into -- or receiving it into the
4 probe.

5 Q. And based on your analysis of this evidence,
6 is this element met?

7 A. Yes.

8 Q. Go to this next section of the claim. And can
9 you -- do you have an opinion about whether this element
10 is met?

11 A. Yes, it is.

12 Q. And can you explain, please?

13 A. So here, there was a -- a Court's claim
14 construction to -- to take into account. The child
15 protocol was construed to be a protocol that is
16 encapsulated within another protocol. And I took that
17 into account in this analysis.

18 Q. Can you explain your opinion on this element?

19 A. Well, essentially there were two things I
20 needed to show. One was the protocol layering, like I
21 had shown earlier, where TCP is a child of IP. And that
22 shows child protocols.

23 And then that -- there's in blue information
24 at one or more locations. And the information is the
25 value 0, 0, 0, 6.

1 Q. Based on that analysis, did you conclude this
2 element was met?

3 A. I did.

4 Q. So let's check that box.

5 And go to the next element, (ii), the one or
6 more locations in the packet. Is this element met?

7 A. It is.

8 Q. And can you explain your analysis?

9 Mr. Waldbusser, I think you may be able to
10 clear your screen.

11 A. Oh, yes.

12 Okay. So the -- so the code here needs to
13 show the one or more locations in the packet. And the
14 -- the blue-colored section in the code below in Line
15 1871 is code that actually reaches into a packet and
16 pulls out a particular location of the packet, it's a
17 particular port of the packet, the destination port.
18 That's a location in the packet just like the limitation
19 is looking for. And it's related to a child protocol
20 because this code is part of the code that looks at
21 tcp_children -- children of the TCP_PROTOCOL and,
22 therefore, it meets both of these limitations.

23 Q. So we'll check that box.

24 Why don't we go to the next element? If there
25 is at least one protocol specific operation to be

1 performed, is this element met?

2 A. It is.

3 Q. And please explain your analysis.

4 A. Well, the -- the protocol specific operation
5 in this case is to extract the -- the destination port
6 and then to put it into the subid variable in -- in Line
7 1870. And this is dependent on a particular protocol or
8 it's for a particular protocol because it's for the
9 TCP_PROTOCOL. It's an activity for the TCP_PROTOCOL.

10 Q. So is this element met?

11 A. Yes, it is.

12 Q. Let's go to Element (C), performing the
13 protocol specific operations. Is -- is this element
14 met?

15 A. Yes, it is.

16 Q. Can you explain your analysis, please?

17 A. Well, this is the same code because the -- the
18 first one was to show that the -- that we have a list of
19 protocol specific operations. And then Claim (C) says
20 to do it, to perform them. And this is -- this code
21 does both. It actually -- this is code that shows the
22 protocol specific operation and then also includes it --
23 or -- or, I'm sorry, performs it.

24 Q. So is this element met?

25 A. Yes.

1 Q. Go to the back to the claim, go to the wherein
2 clause, wherein the protocol specific operations
3 include, is this element met?

4 A. It is.

5 Q. Can you please explain your analysis?

6 A. Okay. So there's -- there's three important
7 things going on here. This limitation requires that
8 we're parsing the packet, that we're extracting things
9 from the packet, and that we're forming a function of
10 the -- of the selected portions.

11 So the -- the parsing is the -- are the source
12 port and the destination port references on the right.
13 We're pulling the -- parsing those -- actually, that's
14 the extracting part, we're extracting those out. We're
15 parsing them on those same lines and GET_PORT
16 information and the GET_PORT function call.

17 And then finally, all of these together form a
18 function, Lines 1889 through 1892. When we call the
19 track_session_check, that's -- that's what's called
20 forming a function of these -- of this information.
21 And that meets each of these three limitations, or these
22 sub-elements of this limitation.

23 Q. This limitation also requires conversational
24 flow; is that right?

25 A. Right. This is the same type of -- same code

1 before that referenced the tracksession.h, the -- the
2 remembering the port portion of -- of where we -- we're
3 putting it in the assigned port. And then we're storing
4 the new purple key by the ADD_TO_HASH function in 1835.

5 Q. So in your opinion is this element met?

6 A. Yes.

7 Q. So if we go back to the claim as a whole, what
8 is your opinion about whether Claim 10 is -- whether
9 Claim 10 is valid?

10 A. I found that Claim 10 is not valid because
11 each of the limitations has been found.

12 Q. In the NetScout probe?

13 A. In the NetScout probe.

14 Q. So why don't we go to the last claim, Claim
15 17.

16 And --

17 THE COURT: Counsel, approach the bench,
18 please.

19 (Bench conference.)

20 THE COURT: How much longer do you think
21 you're going to be, Mr. Lyons?

22 MR. LYONS: Almost done with validity.
23 And then infringement should go a lot faster. I would
24 say 15 or 20 minutes.

25 THE COURT: Okay. I think we'll recess

1 for the day and let you finish up in the morning. The
2 jury's beginning to get tired, at least they appear to
3 be.

4 MR. LYONS: Yes, this is the tough part
5 of the claims.

6 THE COURT: While I have both of you
7 here, let me remind you that whatever time you intend to
8 spend on the portion of the trial that is before the
9 Court only needs to be reserved out of your trial time.

10 MR. LYONS: Understood.

11 THE COURT: Factor that into your
12 calculations, as I'm sure you have been.

13 MR. SKIERMONT: Yes, Your Honor.

14 THE COURT: Okay. We'll recess for the
15 day.

16 MR. LYONS: Thank you, Your Honor.

17 (Bench conference concluded.)

18 THE COURT: Ladies and gentlemen, I'm not
19 prepared to keep you any later today, and this witness
20 still has some additional testimony to get through. So
21 it may not be the perfect juncture, but we're going to
22 recess for the day at this time, and we'll pick back up
23 with the remainder of Mr. Waldbusser's direct testimony
24 tomorrow morning.

25 As you leave to go home, if you will make

1 sure you leave your notebooks closed on the table in the
2 jury room.

3 If you will repeat the same drill that we
4 had this morning, that will be great. Be here prepared
5 to go by 8:30.

6 Follow all the instructions I've given
7 you, and as you would expect me to remind you, don't
8 discuss the case with anyone, including yourselves, and
9 we'll see you tomorrow morning prepared to go forward
10 about 8:30.

11 The jury's excused for the evening at
12 this time.

13 COURT SECURITY OFFICER: All rise for the
14 jury.

15 (Jury out.)

16 THE COURT: Be seated, please.

17 Are there any questions from either
18 Plaintiff or Defendant before we recess for the evening?

19 MR. SKIERMONT: None from Plaintiff, Your
20 Honor.

21 THE COURT: Anything from Defendants?

22 MR. KRAEUTLER: No, sir.

23 THE COURT: All right. We stand in
24 recess until tomorrow morning.

25 COURT SECURITY OFFICER: All rise.

(Recess.)

CERTIFICATION

I HEREBY CERTIFY that the foregoing is a true
and correct transcript from the stenographic notes of
the proceedings in the above-entitled matter to the best
of my ability.

/s/Shelly Holmes
SHELLY HOLMES, CSR, TCRR
OFFICIAL COURT REPORTER
State of Texas No.: 7804
Expiration Date: 12/31/18

10/11/17_____
Date